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The Cut Flower QUARTERLY

Association of Specialty Cut Flower Growers Inc.

for growers of field and greenhouse specialty cuts

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Rule #1: Keep the Soil Covered

Jennie Love

Rarely in the diverse world of agriculture is there one golden rule or one silver bullet for every single farm. But when it comes to soil health and long-term farm sustainability, there is: never leave the ground bare and exposed. Without something covering it, soil is at risk of erosion and the vast cosmos of life that inhabit the soil experience high mortality from exposure and lack of food. Fertility takes a huge hit when ground is left bare, particularly with continuous mechanical tillage. American and Canadian farmers learned this lesson the hard way back in the 1930s when the Dust Bowl devastated the Midwestern plains and brought North American agriculture to its knees.

In 2014, scientists working with the United Nations estimated that if the world population continued to increase at the same rate while soil degradation also continued unchecked (the biggest culprits being large-scale conventional agriculture and deforestation), we only had 60 harvests left on this planet. While the exact science behind that calculation has been frequently debated since, the statement was nonetheless a stark wake-up call that has spurred a greater awareness that soil conservation—particularly in farming—is critical. Even small farms have a big role to play in making sure our top soils don't blow away and as much carbon as possible is being sunk back into the earth instead of going into our atmosphere.

The best way to put armor on your soil and boost a farm's long-term fertility through carbon sequestering is to **keep living roots in the soil at all times**. The roots of plants help hold the soil in place when harsh wind and rain come knocking, while also feeding myriad life-forms in the soil with their exudates. In turn, the living community in the soil—consisting of microbes and macro beings like earthworms and beetles—eat and poop and decay, all of which feeds the plants in return. When there are no living roots in the soil, this generous cycle of give-and-take is broken. In surprisingly short order, soil degrades, aggregates break down, compaction builds up, runoff increases, and ultimately fertility plummets. Oh, and a lot of carbon goes "poof!" up into the atmosphere.

As farmers, we cannot always manage to keep a productive cash crop going in every bit of the earth we steward. The colder months are particularly challenging. This is where cover crops come into the equation of soil health and fertility. Cold-hardy species like rye, triticale, and barley will provide a living blanket for the soil through the winter. In the warmer months, a farmer may choose to let a piece of the field rest for a little while. In this instance, buckwheat, cow peas, and sorghum can be excellent green manures that feed soil life with root exudates during growth and then biomass for a longer-term deposit in the organic matter bank when they get mowed down.

There are several considerations a farmer typically takes into account when choosing what exactly to grow in terms of cover crops or green manures. It can be daunting to sort this all out on your own. Much has been written on cover cropping for large farms with big equipment and forage needs. But few, if any, guides on cover crops for small-scale flower farming exist. So here is my take on it.

Quick Vocabulary Breakdown

Cash crop—a crop the farm is growing with the intention of selling the harvest.

Cover crop—a crop the farm is growing to cover and protect the soil in the off-season.

Green manure—a crop the farm is choosing to grow instead of a cash crop, typically to increase fertility or address a situational challenge.

When I am choosing cover crops for flower farming here at my five-acre flower farm in Philadelphia, I focus on the following three considerations:

1) Window for Sowing/Growing
2) Termination Method
3) What Does the Soil Need

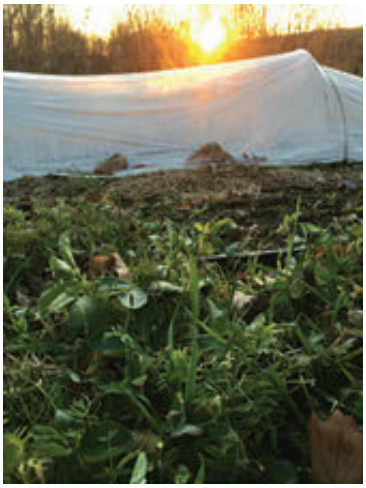
Window of Sowing/Growing

Cover crops and green manures are always direct seeded. As such, the soil's temperature at the time you plan on sowing the seed is critical to successful germination. Some cover crops do well germinating in cooler soils. Some seeds would simply rot away in the same conditions.

Additionally, how long do you have before you want something else to grow in that same spot? Cover crops growing over the winter are relatively easy to schedule. But if you're plugging in green manures to your summer planting rotation, you will need to carefully consider how long a given crop needs to do its thing. For this reason, buckwheat is a big favorite around Love 'n Fresh Flowers; it loves our hot, humid summers and it reaches its peak biomass in just 30-40 days!

Termination Method

Coupled with when to sow and how long it takes to grow is determining how the cover crop or green manure will be "terminated". Essentially, how are you going to kill this stuff so you can go back to growing a cash crop? If you've got a tractor and a flail mower, you can handle just about any cover crop. But many flower farms are smaller, with a bed layout that is not conducive to bringing a tractor into the middle of the field at the height of summer. In this case, you'll want to use tarps and/or a smaller piece of equipment like a push mower or string trimmer.



The following steps are used at Love 'n Fresh Flowers to terminate a cover crop or green manure:

1) Tall, dense crops like winter rye are first knocked down with a string trimmer. If the crop is not tall and dense, we skip this step.

2) Tender crops like buckwheat and the tougher crops that were already trimmed down get mowed super low with a mulching push mower.

3) Depending on the size of the space/bed, landscape fabric or tarps are placed over the area that was cover cropped, and left in place for about 10-15 days, depending on the weather and our planting schedule. This excludes light and weakens the cover crop. You could leave the tarps in place longer if desired. I choose to take them off as soon as feasible so we can get the bed replanted with new living roots to keep feeding the soil community and to keep the farm as profitable as possible.

4) Prep the bed for planting per usual.

Regardless of your termination method of choice, be sure to stay on top of terminating the crop prior to it going to seed. If you do not, then you'll have a whole new weed problem on your hands!

What Does Your Soil Need?

The third major consideration when choosing cover crops for flower farming is what exactly are you trying to accomplish. What does your soil need? If you have sandy soil and struggle with getting your organic matter (OM) percentage up, you'll want to choose a crop that is known for its biomass. If you have compacted clay soil and struggle with drainage, you'll want to choose a crop that is known for having a large and fibrous root system. If you want to capture nitrogen naturally, you'll choose a legume crop that can form nitrogen-gathering nodules on its roots. If you want to combat a fungal disease or pest buildup, you'll want to choose a crop known for disease suppression or beneficial insect habitat. Each farm's needs will be unique so this part will require a little research on your behalf. SARE and many agriculture seed retailers like Johnny's provide excellent reference materials for which cover crop solves which problem.

My Top Five Favorite Cover Crops at My Farm

1) Winter rye: excellent for loosening clay soils, really good at feeding soil community over the winter, great biomass for organic matter, and you can cut seed heads for spring bouquets.
2) Vetch: fixes nitrogen, good biomass, nice mixed with rye for diversity (but don't let it go to seed!)
3) Mustard: fight soil-borne diseases and you can let it flower in the spring to cut it for bouquet filler.
4) Buckwheat: so fast to grow, great for beneficial insects, and breaks down quickly for more rapid bed flip.
5) Dwarf sorghum: big time biomass, excellent weed suppression, and you can cut immature plumes for fall bouquets.

Did you notice there are three in the list above that can do double duty as a cut as well? Now there's no excuse not to add cover crops to your micro farm!

Hopefully this article leaves you feeling empowered to tackle building soil health and fertility. Nothing is quite so rewarding as to look out over a swath of lush cover crop, knowing it is doing so much good for your farm!

For more discussion on soils and sustainability in flower farming, be sure to follow @notillflowers on Instagram and read more articles on my website www.lovenfreshflowers.com/blog.

Jennie Love is owner of Love 'n Fresh Flowers.
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The Farmer and the Florist

New Things We've Tried

Ellen Frost and Laura Beth Resnick

We're exhausted! It seems like our worlds are in slow, painstaking recovery from the year 2020 and all its highs and lows. Though we're not keen to try any big ideas right now in our businesses, it's fun to look back at years past and remember when we had the energy to try new things! Some of them worked, some fell flat on the floor.

An Open Cooler Concept at Butterbee

LB: About four years ago, a new florist pushed us to let her shop in our cooler. We had only just started working together. She liked to handle the flowers and see them before buying, and said she'd seen an open cooler concept work on other farms. We're only 15 minutes' drive from downtown Baltimore, local enough that it seemed reasonable for her and others to make the trip.

I honestly can't remember all of the logistics we settled on, but I believe we allowed florists to come on Monday afternoons. We called it Open Cooler; we had a price list on the wall, and the idea was that florists would write down what they took and we would invoice them for it later. We wouldn't have to staff the Open Cooler, as it would be an honor system.

At the time, I thought it was going to solve all our problems. Florists often told us they were more motivated to buy when they could physically see the flowers, and it would save us delivery driving time. The new florist was really adamant that it was the right direction, and that she would come all the time. I'm sure you can see where this is going, since I'm using a lot of past tense…

She came to shop at Open Cooler only one time, and just a smattering of others tried it out. A few weeks went by when no one came, and so we threw the idea in the compost where it belonged. Florists in our area really like to have their product delivered; getting in the car to come and see a mystery amount of flowers was just never going to work for most of them.

There's a greater lesson here. Some of you might already know I'm a Brené Brown fan—she's an author on the power of vulnerability. She came up with a metaphor that helps me understand how and when to trust customers. Every time a customer does something that builds your trust (like shop regularly, pay on time, and encourage you) put a marble in their metaphorical jar. Don't fill the jar to the brim after just one friendly interaction, but don't be afraid to slowly add marbles either. If they do something that breaks your trust (like push you to meet their needs in an aggressive way), take a marble out of the jar.

When faced with a decision about how to handle something with a florist, I'll often turn to their (imaginary) marble jar. Does the jar seem pretty full? Then I'll happily try to accommodate them. Are they so new in my life that they don't have any marbles yet? Then it's too early to trust them, as was the case with the Open Cooler florist!

Weekly Team Lunch at Butterbee

A few years ago, I decided it would be fun to buy our small team lunch from our favorite bakery every Thursday. Early in the season, it was super fun and a nice way to bond over food and thank everyone for their hard work. We got busier and busier, and soon enough I found myself stressed out about the team lunch. Would I have time to get it this week? Would people be mad if I didn't provide lunch? I was trapped in a net of my own making!

As is usually the case with lunch (the best meal in my opinion!), this story has a happy ending. Thursday team lunch was abolished due to its stressful nature, and instead we instituted a more selective lunch approach. We go big for birthdays with kombucha and food and cupcakes. And, inspired by our Mid-Atlantic Regional Director Michelle Elston at Roots Flower Farm, we also randomly provide lunch or snacks as a surprise. We'll do Rita's frozen custard on hot days, or peppermint patty smoothies from the local plant-based place, or Chipotle if we need something quick, or our favorite bakery for a really special meal. Food still brings us together, but without the headache!

Online Teaching at LoCoFlo

In January 2020, I took the plunge to develop a six-week online course called Growing Your Business with Local Flower Sourcing. I had never done any sort of online teaching before. All of my teaching experiences, either with large groups or with individuals, had been in person. While my peers were pivoting to online teaching, I never made the leap. I think it was fear that was holding me back. I was afraid that I wouldn't be able to convey the information and my passion for the topic, in a way that people would really benefit from, in an online format. Partnering with Lisa Ziegler of The Gardener's Workshop really helped me have the confidence to try this new path. I never doubted that the information and experiences I had from over 15 years of local flower sourcing was great information and important to share. Lisa is a great mentor and teacher in her own right, who really supported me during the process. After a year of planning and recording, I was a nervous wreck when the class began at the beginning of January 202. Amazingly the class went great! The students were so enthusiastic and open to what I was teaching. The format, while still not super comfortable for me, was not a hindrance for teaching in any way. With my newfound confidence, I'm excited to be offering the class again in January 2022!

Booking As Many Weddings as Possible at LoCoFlo

In 2016, we made a plan to increase the number of weddings we designed, and increase our team to meet the increase in work. We felt like we had really mastered small to medium weddings over the previous 8 years and were ready to scale up. We hired several new designers and booked over 100 weddings. While more work and more weddings and a bigger team seemed like a good idea when we made it, we quickly learned that the plan was wrong in every way. First, the management of multiple teams doing multiple weddings became overly stressful and time consuming. Additionally, because we were basically taking every wedding that came to us, the events and clients and locations were not necessarily the best fit for us. We were traveling too far, and coordinating vehicle rentals for too many deliveries. Most importantly, what we learned by the end of the season was that while our income increased, our profit for the year decreased. Did you hear that? The more work we did, the less money we made. Our experiment in scaling up was worth trying, but in the end, it was not the right plan for us.

Trying new things can seem uncomfortable and risky. When we succeed, we wonder why we didn't try sooner. When we fail, we try to learn from our mistakes. Trying new things is part of what makes owning a small business so rewarding.

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Grower PROFILE

Plumb Farms Flowers

Jodi Helmer

Operating as a farmer-florist allows one Connecticut couple to pursue their passions for horticulture and design

Dave Rubino and Tom Wheeler met while pursuing degrees in horticulture at The Pennsylvania State University. After graduation, Wheeler put his talents to work as a floral designer while Rubino pursued a master of science degree and PhD in horticulture before going to work as a plant geneticist at the United States Department of Agriculture.

The couple was living in Washington, DC, when they were offered the opportunity to take over Plumb Farms, the farm in Prospect, Connecticut, where Wheeler grew up.

Dave Rubino

Tom Wheeler

"We had free rein to take whatever direction we wanted," Rubino recalls.

The original farm was established in 1790. Past generations used the 100-acre property as a dairy farm and a fruit and vegetable operation; in the 1970s, Wheeler's mom grew a few cut flowers and sold them from a roadside farm stand. Rubino and Wheeler returned to the farm in 1993 to start Plumb Farms Flowers.

"It was bare bones at the beginning," Rubino says. "We had a lot of ups and downs as we figured out what to grow and how to start a business."

They transformed the four-car garage into a retail shop, constructed a 30 x 96 greenhouse, and started growing a half-acre of cut flowers.

Rubino supplemented their annual and perennial crops with lilacs and pussy willows growing wild on the property; they also purchased cut flowers from wholesalers to meet the demand for high-end floral designs for weddings and other special occasions.

Although Plumb Farms Flowers has changed a lot over the last 28 years, a few things have remained the same: Rubino still grows brightly-colored favorites like zinnias, snapdragons, sunflowers, and peonies, and Wheeler remains passionate about floral design.

The couple often talks about trends in the cut flower industry, including which colors and varieties retail customers are requesting but, Rubino admits, "He's able to take whatever (cut flowers) I bring him and make them work, he has a great eye for color and creates beautiful designs using combinations I would never think of putting together."

Growing Pains

Experience has taught Rubino that operating as a farmer-florist requires regular tweaks to deal with the realities of pest and disease pressure, changing trends, and increased competition.

Thanks to the viral disease aster yellows, Rubino grows only a limited number of flowers in the aster family; the farm could never keep up with the demand for roses in floral arrangements so Wheeler purchases them from wholesalers instead of growing them on the farm; and heavy deer pressure means that their entire cut flower field must be fenced—and expanding means installing additional fencing. Bright colors have been a mainstay for almost three decades.

Their decision to focus on growing a selection of high quality cut flowers and creating high-end floral arrangements came after they dabbled in everything from growing bedding plants to producing (and baling) hay for local livestock farmers.

Rubino has seen one significant positive development since he started Plumb Farms Flowers.

"When we were starting out, people expected cut flowers from a roadside stand to be cheap and we had to work hard to develop a customer base for local flowers," he says.

As support for "grow local" and "know your farmer" movements has exploded, it's been easier to convince customers of the value of purchasing locally-grown flowers—and the retail shop generates a lot of interest from those seeking out local blooms.

"I light up when people in their 20s are interested in horticulture and what we're doing here," Rubino says.

Sowing the Seeds for Success

Rubino admits that transitioning from a career in researching plant genetics to operating a flower farm required a learning curve—but a love of learning is one of the reasons growing cut flowers remains interesting. Rubino spends a lot of time reading about new varieties and plant genetics; he also attends annual ASCFG conferences and classes where he appreciates opportunities to learn from his peers.

"A lot of [the ASCFG members] have a lot more practical horticulture experience than me," he says. "I'm always learning from people with farming backgrounds who know equipment and often have ideas for how to make things easier or farm more efficiently."

The couple also learned that specializing was the key to sustainable business success. Their decision to focus on growing a selection of high quality cut flowers and creating high-end floral arrangements came after they dabbled in everything from growing bedding plants to producing (and baling) hay for local livestock farmers.

"Early on, we were trying to do too many things, working too many hours [and] it got very stressful," Rubino says. "We had to get comfortable giving things up."

One of the things they gave up was weddings.

Like many cut flower farms, Plumb Farms Flowers developed a thriving wedding business, growing cut flowers and designing floral arrangements for couples who were tying the knot. After years of earning rave reviews (and high revenues) from their wedding business, they decided to cut back to free up their weekends and lower their stress levels.

The decision was short lived. The 2008 recession hit not long after Plumb Farms Flowers stopped working on weddings and the economic realities led Rubino and Wheeler to get back into the business. In 2011, the couple provided flowers for 53 weddings in a single season and continued serving couples until 2018. Now, their focus is back on their twin passions for farming and floral designs.

"One of the things we've learned is that you have to stay positive and not let the little things get you down," says Rubino. "We love what we do and we've stuck with it for the long haul to make it work."

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Periodical Cicada Brood X Coming in 2021

Stanton Gill

So much focus has been on the economy and the COVID situation recently; let's move forward to what is happening in the insect world this spring.

First, take a minute and drift back to 2004. The air was "abuzz" with the sound of the 17-year periodical cicadas, *Magicicada septemdecim*. Male cicadas were drumming their abdomens to make noises that carried for miles. The female cicadas slashed into branches to lay their eggs. At the peak of the cicadas' flight activity the bird population was getting plump from the bounty of insects to feed on. The eggs hatched in a couple weeks and the nymphs dropped to the ground to burrow into the root zone to feed on tree roots for the next 17 years. We thought we were safe from the 17-year cicadas until 2021. Time slipped by; it's now 2021, and we will be seeing and hearing the Brood X periodical cicada this late spring to early summer.

Males are capable of producing a high-pitched whine that some people liken to a small chainsaw or 2-cycle engine noise. Females, which produce no sound, are attracted to the males to mate. Males have a large group noise, then sing a quieter song when a female approaches, and switch to an even softer noise during mating. The group noise is the one that is slightly annoying and overwhelming.

In 2020 we published several articles and pictures of rogue Brood X periodical cicada that showed up in several Maryland counties. These were just periodical cicadas (Brood X) that got out of sync with the main body. The big emergence is set for 2021.

Periodical cicadas emerge in different geographical areas and these emergence groups are labeled as "broods." The one we experienced in 2004 in most of Maryland was Brood X. There was another brood of 17-year periodical cicadas that emerged in 2013, and this is called Brood II. In most central and western areas of Maryland you will not see these Brood II cicadas. People in southern Maryland, Virginia, Pennsylvania, North Carolina, New Jersey, and New York will be seeing activity of Brood II in 2030. It is something to look forward to for 2030.

Periodical cicadas are found in eastern North America and belong to the genus *Magicicada*. There are seven species; four with 13-year life cycles (including one new species described in 2000), and three with 17-year cycles. The three 17-year species are generally northern in distribution, while the 13-year species are generally southern and Midwestern. *Magicicada* are so well synchronized developmentally that they are nearly absent as adults in the 12 or 16 years between emergences. When they do emerge after their long juvenile periods, they do so in huge numbers, forming much denser aggregations than those usually achieved by cicadas. Many people know periodical cicadas by the name "17-year locusts" or "13-year locusts", but they are not true locusts, which are a type of grasshopper.

A few weeks before emerging in late spring, the nymphs construct exit tunnels to the surface. These exits are visible as approximately half-inch diameter holes, or as chimney-like mud "turrets" the nymphs sometimes construct over their holes. On the night of emergence, nymphs leave their burrows around sunset, locate a suitable spot on nearby vegetation, and complete their final molt to adulthood. Shortly after ecdysis (the process of an arthropod molting its exoskeleton) the new adults appear mostly white, but

Orchard and nursery owners probably should not plant young trees or shrubs in the years preceding an emergence of periodical cicadas, because young trees may be harmed by severe flagging. Mature trees and shrubs, however, usually survive even dense emergences of cicadas.

they darken quickly as the exoskeleton hardens. Sometimes a large proportion of the population emerges in one night.

Newly-emerged cicadas work their way up into the trees and spend roughly four to six days as "teneral" adults before they harden completely (possibly longer in cool weather); they do not begin adult behavior until this period of maturation is complete. Adult females can occasionally use their sucking mouthpart, called a stylet, to pierce plant material or small fruit to extract a small amount of sugar for flight and mating but damage is not detected on most plants. Young, immature nymphal cicadas feed on liquid from plant roots. Adult cicadas do not generally feed, according to U.S. Department of Agriculture.

Adult *Magicicada* have black bodies, striking red eyes, and orange wing veins, with a black "W" near the tips of the forewings. Most emerge in May and June.

You may say, wait a minute, I see cicadas every summer in August. Yes, you would be correct. Annual cicadas, which are out in August every year, are large, green insects, and never reach really high populations numbers. They are also called "dog-day cicadas" since they are in flight when the "Dog Star Cluster" is visible in the August sky. Although annual cicadas' life cycle is typically 2-3 years long, they are staggered so we see some emerging every summer. These late-summer species, which are sometimes mistaken for the periodical cicadas, are usually in the genera *Diceroprocta*. The annual cicada is more robust in body size than periodical cicadas, and the body is green.

Egg Laying and Damage

A week to 10 days after the males begin "singing," the "early adopter" females begin to lay eggs. Each female is capable of laying up to 400 eggs in 40 to 50 pockets in the wood of several small branches of many types of trees. More than 80 species of trees were recorded in 2004 damaged by female cicada ovipositing. Some of the most susceptible we recorded in 2004 included paperbark maple, oaks, maples, ornamental pears, and fruit trees. The type of branch preferred by the females is about the width of a pencil (if anyone remembers what a pencil looks like) up to 0.5 inch in diameter or a little larger.

Female cicadas, after mating, slice into the wood of the branch with an egg-laying apparatus (ovipositor) and place the eggs into the wood. She usually lays one to several dozen eggs in a single branch before moving to another branch or tree. Female egg-laying activity is controlled by temperatures If it is cool in the spring, egg laying takes place over a longer period. Generally it is 30 to 45 days of egg laying. Approximately 5-7 weeks later the eggs hatch into tiny white nymphs. The nymphs drop to the ground and burrow into the soil to feed on grass roots and, eventually, tree roots for the next 17 years

Are They a Threat?

Cicadas do not bite or sting defensively, nor do they attack people. If a cicada lands on you, it is only because it finds you to be a convenient place to land. A good anecdotal story is that some lawnmower and weed-whacker motors may produce a sound that might be attractive to the periodical cicadas. We did not witness any of this action in 2004. We did have people cancel outdoor weddings in late May and early June of 2004 because they were worried about the male cicadas' singing out-competing their ceremonial speakers and music.

When handled, both males and females struggle to fly at first, and males make a loud defensive buzzing sound that may startle but is otherwise harmless. Periodical cicadas are not poisonous to animals or humans, nor are they known to transmit disease. Adult periodical cicadas live only a few weeks—by mid-July, all have disappeared. Their short adult life has one purpose: to reproduce. The males "sing" a species-specific mating song which to most humans is irritating din of noises. The cicadas produce this loud sounds using their tymbals. Singing males of a single *Magicicada* species form aggregations (choruses) that are sexually attractive to females. Think of it kind of like holding a rock concert to get females to come into the area. Males in these choruses alternate bouts of singing with short flights from tree to tree in search of receptive females. When they get close to a female they sing another song and finally at mating they change to an even softer song.

Periodical cicadas can cause physical damage to small trees or shrubs if too many feed from the same plant or lay eggs in the twigs; such damage can cause "flagging", or breaking of peripheral twigs. Orchard and nursery owners probably should not plant young trees or shrubs in the years preceding an emergence of periodical cicadas, because young trees may be harmed by severe flagging. Mature trees and shrubs, however, usually survive even dense emergences of cicadas.

In 2004, many homeowners purchased netting to cover small trees but this was not a very practical solution since the netting is often blown off the plants or entangled in branches. If you do choose to put up netting, leave it

only on the plant during the egg-laying period of the females. Longer periods will encourage foliar disease on several plant species, especially fruit trees. Use netting with ¼-inch or smaller openings. Contact me at sgill@umd.edu if you are looking for commercial sources of netting.

One furry creature is made happy by cicada activity. Moles are said to flourish on the fully-grown nymphs in the weeks prior to emergence. Other animals that enjoy the advantage include snakes and spiders. So, at least some of nature's wildlife gets a benefit out of the nymphs that emerge from the soil.

Chemical sprays are really not practical to control the periodical cicadas. Beyond the concern by owners of fruit orchards and nurseries, periodical cicadas are not regarded as pests. Their loud noises may be annoying but tolerable since it lasts for a couple of weeks. Be prepared for the activity this late spring to early summer.

Why So Many?

When periodical cicadas emerge, they do it in a big way with a huge population saturating an emergence area. *Magicicada* population densities are so high that predators apparently eat their fill without significantly reducing the population (a phenomenon called "predator saturation"), and the predator populations cannot build up in response because the cicadas are available as food above ground only once every 13 or 17 years, depending on the species.

If You Can't Beat 'em, Eat 'em

Cicadas are said to make good eating because they are low in fat and high in protein. There are over 3000 species of cicadas and they are considered a delicacy by many people in different parts of the world. The European settlers in North America observed some Indian tribe members eating cicadas. During the last emergence of Brood X cicadas in 2004, a number of very brave (or just weird) people reported to have tried deep-fried and stir-fried cicadas. This is just for the adventurous people of the world, or good for a dare at a cook-out.

Additional Resources

Return of Periodical Cicadas in 2021: Biology, Plant Injury and Management, by Michael Raupp

Home and Garden Information Center – Cicada - https://extension.umd.edu/hgic/topics/cicadas. Author Emily Zobel, University of Maryland Extension

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Stanton Gill is Extension Specialist, IPM and Entomology for Nursery, Managed Landscapes and Greenhouses, CMREC, University of Maryland Extension and Professor with Montgomery College, Landscape Technology Program.
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Cut Flower Cooperatives — Stronger Together

Kevin Edberg

Part Four of a Four-Part Series

The process of starting a co-op is not a single linear process, but might be better thought of as two processes moving along in parallel. I have described a cooperative as a "democratic association of members" who share a common need or outcome, and who achieve that desired outcome through a "mutually owned business". I will continue to use that framing to discuss how a group of flower farmers might start a co-op, with one process related to engaging, educating, and growing a group of potential members, and the other process assessing the feasibility of the potential business. Ultimately the two processes are brought together with a refined business proposition being placed before a right-sized group of potential members, with a request to capitalize the business.

The essential pieces of the process are described here, but especially for those preferring a more visual presentation, check out www.cdsus.coop/wp-content/uploads/2020/05/co-op_101.pdf

Growing That Democratic Association Vision

Vision, Steering Committee, and Champions. A co-op often starts when individuals ask each other "What if we worked together to…?" The conversation that follows begins framing a vision for things that might be possible: aggregating demand to improve buying power or logistics; bigger, better-paying markets for expanded product lines or seasonal market extensions; increased efficiency by sharing specialized equipment or responsibilities for tasks; greater knowledge of production or marketing trends from shared insights and experiences; the list goes on. The vision for the co-op will be refined as information is gained and potential members are engaged in the conversation. But keeping the vision active and relevant to the shared needs of the potential members is critical throughout the process.

The process should be led by a steering committee of grower leaders with knowledge of the industry, a reputation for integrity, and the respect of other growers. Ideally you would recruit your "dream team" of leaders rather than simply putting out a sign-up sheet. The role of the steering committee is not to ensure that a co-op gets started; it is to ensure that good business development process is used to assess ability of a co-op to meet the needs of members. In essence, the role of the steering committee will be to hold the vision of the cooperative in trust for its eventual owners.

While the steering committee members will ideally bring a diversity of perspectives, experience, and knowledge to the overall process, there will always be need for a "project champion" to ensure that the steering committee stays on task. Sometimes that role can be shared with two people, and sometimes it is played by one person at time but different people over time. Regardless, there is need for someone to provide overall leadership.

Incorporation. Groups have a choice about when to incorporate. By incorporating early in the development process, the group is able to secure its own bank account, transact business, and the reasonable business decisions of the steering committee are protected by the "corporate veil". Alternatively, a group can wait to incorporate until after it completes a business planning process; typically, the group would rely on a local fiscal sponsor to handle finances in the meantime. In either case, it is always wise to get legal assistance for the incorporation and bylaws process, as each state has its own statutes governing cooperative structures.

Financing the development process. There will be expenses incurred during the early (preoperational) development stages. Costs might include legal fees for incorporation and bylaws, or hiring of business consultants to assist with feasibility assessment. There are no magic formulas for how groups seek to pay for these expenses. Sometimes members will make loans to the co-op to finance early expenses with the understanding these will be paid back if/when the cooperative is operational. Other times the steering committee holds local fundraising events. Sometimes business development grants are available.

Cultivating interest of potential members. Often some members of the steering committee will focus on creating/maintaining a website or listserv to provide information to prospective members. Periodic meetings to share information about what the group is learning are also recommended. Ultimately, you want to have an appropriately-sized group of potential members identified to receive the results of the business plan, and to consider membership and investment.

Assessing the Business Opportunity

Feasibility assessment. Starting any business always includes some risk, and the potential for loss of investment. Good business development process involves the disciplined assessment of various feasibility issues, typically related to product supply, market identification and quantification, operational requirements, and financial projections. If your vision is especially robust, or if you anticipate needing a bank loan to capitalize the business, there may be need for a feasibility study. Typically delivered by a consultant, the feasibility study assesses these questions and asks whether there is at least one way that the business could be feasible. (There may be more than one option). If the conclusion supports continuing work, the next step is a business plan. If the conclusion does not support continuing effort, then throw a party to celebrate all that you have learned and the new relationships that have been created in the process. You and colleagues know more now than you did beforehand, and that's worth recognizing.

The process should be led by a steering committee of grower leaders with knowledge of the industry, a reputation for integrity, and the respect of other growers.

Business planning. Whereas the feasibility study asks if there is "at least one way" to build the enterprise, the business plan describes "the way" you intend to operate. If the envisioned business is not terribly complex, a group might forego a feasibility study and move directly to a business plan. Sometimes steering committee members will have experience with business plan development, but if not, local Small Business Development Centers can often assist your group. The end result of the plan is to provide potential members, lenders, and stakeholders with information about why the cooperative is needed and how it is intended to function.

Financing the co-op. The business plan is placed in front of the crowd of potential members along with a request for membership and investment. It is the members who are primarily responsible for capitalizing the business, though often member equity is leveraged by loans or grants. The financial projections in the business plan should clearly identify the necessary amount and sources of capital needed to launch the business. This call for membership and investment, also known as an equity drive, is its own go/no go decision point. If insufficient membership and investment is obtained, it's another reason for a party. But if the equity drive meets its goals, the work of the steering complete: the cooperative now has members and capital and is in position to begin implementing the business plan.

Leadership transitions. The success of the equity drive is a time to profusely thank the steering committee for their work, and to relieve them of further responsibility. They have successfully held the vision of the cooperative in trust for its eventual owners. The co-op will hold its first annual meeting where members elect its first board of directors. While some steering committee members may seek election to the board, this should not be assumed. The members should be intentional about electing a board with the knowledge needed to govern the new organization.

Help is Available!

The process of starting and growing a cooperative business can be challenging but also very rewarding. Fortunately, help is available to assist groups in using good processes; connecting to local or regional resources; and identifying partnerships that can help the co-op succeed. To see if there is a co-op development organization in your state or region, check out www.cooperationworks.coop. This association of co-op development organizations can be of great assistance to startups.

Kevin Edberg is Executive Director of Cooperative Development Services, Eagan, Minnesota. Learn about them at www.cdsus.coop or contact him at kedberg@cdsus.com

Katz Matthiola Field Example

Linda Laughner, Breeder Extraordinaire with her new Dianthus in trial.

BloomStudios Cut Flowers will be displaying over 170 cut flower varieties in tunnels and open field production in Santa Paula, California the week of June 20-27. Most of the commercial seed assortment will be shown, along with displays of vegetative and bulb crops. Join us to learn more about new varieties from the last twp seasons and next two years as well! Some of your favorite series and varieties will be featured including Potomac snapdragons, Amazon dianthus, Sunday and Celway celosia, ABC lisianthus, Katz matthiola, and many more.

The event is called California Summer Trials (formerly Spring Trials or Pack Trials) and features new varieties from breeding companies from all over the world including PanAmerican Seed, Sakata, Takii, Syngenta, Benary, and many other breeders will have trials or displays to view. This year's outdoor event will allow all visitors to view varieties at recommended social distanced guidelines, and learn from our breeders and product managers about the new varieties and improvements they are ready to introduce. For those not attending in person, BloomStudios will have a virtual trial walkthrough for the ASCFG members…stay tuned.

To learn more about the event, visit https://www.growertalks.com/CaliforniaTrials/Trials/ and to register for in person attendance, visit https://www.ballhort.com/CAST/ .

Thank you,

Scott Rusch
General Manager, BloomStudios Cut Flowers

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The Floral Heart Project laid COVID-19 memorial tributes in over 100 Locations on March 1st

Scott Rusch, BloomStudios Cut Flowers

The Floral Heart Project was started in April 2020 by artist Kristina Libby to help people grieve, recognize, and memorialize those we've lost to COVID-19. The goal of the project is to bring floral hearts to cities around America and to create living public memorials. Groups like Marked by Covid, along with industry support from 1-800 Flowers and BloomStudios Cut Flowers, helped to grow the project and amplify the efforts.

On March 1st, hundreds of volunteers across the U.S. worked together to place over 100 floral hearts from Maine to California to commemorate a national day of mourning. The laying of hearts included vigils, mayoral proclamations, musical accompaniment, and speeches by families who lost loved ones to COVID.

We thank all the volunteers, but especially the many ASCFG members who decided to get involved including: Jessica Drennon Neese, Mary O'Connor, Elizabeth Sainte, Detra Herrman, Jennifer Fiss, Becca Coleman, Jennifer Wilson, Laura Skidmore, Janice Marks Trent, Lexi Koch, Scott Rusch, Mechel Curtis Wall, and Reid Snyder. My apologies to anyone I inadvertently missed.

Future events will be planned; the ultimate goal is to advocate for a national COVID-19 Memorial Day to mourn those we've lost and to help reduce the chance of this happening again.

To learn more about how to get involved, please visit www.floralheartproject.com and www.markedbycovid.com.

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Entomopathogenic Nematodes Were Effective against Western Flower Thrips on Chrysanthemum Plants, But Not in Gerbera Flowers, under Greenhouse Conditions

Funded by the ASCFG Research Foundation.

Raymond A. Cloyd and Nathan J. Herrick
Department of Entomology, Kansas State University

Western flower thrips, *Frankliniella occidentalis*, is a major insect pest of cut flower crops that can cause direct economic damage. Producers are looking for alternative strategies to manage western flower thrips because populations have developed resistance to many insecticides. Consequently, some producers are using entomopathogenic nematodes, although most information on how well they work is anecdotal. Therefore, we conducted a research project, funded by the Association of Specialty Cut Flower Growers Research Foundation, to determine the efficacy of the entomopathogenic nematode *Steinernema feltiae* against western flower thrips in gerbera, *Gerbera jamesonii*, flowers and on chrysanthemum, *Chrysanthemum* × *grandiflorum*, plants under greenhouse conditions.

Materials and Methods

The following study involved two greenhouse experiments conducted at Kansas State University (Manhattan, KS).

Experiment One

In the first experiment, sixty gerbera daisy cut flower stems were placed into glass vials containing tap water. There was one cut flower per glass vial. All vials (n=60) were placed on a wire-mesh bench in a greenhouse with an open frame composed of PVC piping, which held a 50% black knit shade cloth placed on top. The experiment was set up as a completely randomized design. Each cut flower was artificially infested with 10 to 15 western flower thrips adults, obtained from our laboratory colony, and allowed to acclimate in the cut flowers for 24 hours. The glass vials were refilled as needed with tap water. The treatments were prepared in 32 fluid ounces (946 milliliters) of tap water and applied to the flowers using 32-ounce spray bottles. Each cut flower received 0.85 fluid ounces (25 milliliters) of spray solution, which thoroughly saturated the flower surface and allowed the solution to penetrate the disc floret portion of the flowers. There were six treatments, which are presented in Table 1, with five replications per treatment.Thirty gerbera cut flowers were harvested four days after the first application, and the remaining 30 cut flowers were harvested four days after the second application. For both evaluations, cut flowers were placed into plastic Petri dishes with lids and the number of live, dead, and total number of western flower thrips adults per cut flower were counted. Percent mortality associated with each treatment was calculated by dividing the number of dead western flower thrips adults by the total number recovered per cut flower or replicate. Percent mortality estimates for all the data were subject to analysis with treatment as the main effect.

Percent western flower thrips adult mortality was not significantly different ($P>0.05$) across the treatments associated with one application of the entomopathogenic nematodes. There were no statistical comparisons made affiliated with two applications of the treatments because of the low recovery of western flower thrips adults, which may have been due to the cut flowers being excessively moist.

Experiment Two

The second greenhouse experiment involved using 35 clear plastic observation cages [18 x 18 x 24 inches (length x width x height)] arranged in rows on top of two wire-mesh greenhouse benches. Each cage had a lid with a hole and two holes on opposing sides covered with thrips screening to allow for ventilation and prevent western flower thrips adults from escaping.

Thirty-five chrysanthemum 'Manhattan' young plants were transplanted into 6-inch diameter containers with a growing medium composed of 75 to 85% coarse sphagnum peat moss, perlite, vermiculite, and a wetting agent. Plants were grown for 44 days before they were infested with western flower thrips adults.

Table 1. Treatments and rates used for experiments one and two associated with the effects of the entomopathogenic nematode, *Steinernema feltiae* on western flower thrips, *Frankliniella occidentalis*, adults in gerbera flowers (experiment one) and on chrysanthemum plants (experiment two).

Experiment One	
Treatments	**Rates**
1. *Steinernema feltiae* (Nemasys): one application	50 million nematodes/50 gallons (125 thousand nematodes/50 milliliters)
2. *Steinernema feltiae* (Nemasys): two applications	50 million nematodes/50 gallons (125 thousand nematodes/500 milliliters)
3. Water: one application	---
4. Water: two applications	---
5. *Steinernema feltiae* (Nemasys) + *Beauveria bassiana* PPRI 5339 (Velifer): one application	50 million nematodes/50 gallons (125 thousand nematodes/500 milliliters) + 13 fluid ounces/100 gallons (0.96 milliliters/32 ounces)
6. *Steinernema feltiae* (Nemasys) + *Beauveria bassiana* PPRI 5339 (Velifer): two applications	50 million nematodes/50 gallons (125 thousand nematodes/500 milliliters)
Experiment Two	
1. *Steinernema feltiae* (Nemasys): one application	50 million nematodes/50 gallons (125 thousand nematodes/500 milliliters)
2. *Steinernema feltiae* (Nemasys): two applications	50 million nematodes/50 gallons (125 thousand nematodes/500 milliliters)
3. *Steinernema feltiae* (Nemasys): three applications	50 million nematodes/50 gallons (125 thousand nematodes/500 milliliters)
4. Water: one application	---
5. Water: two applications	---
6. Water: three applications	---
7. Untreated check	---

Chrysanthemum plants were randomly placed among the 35 clear plastic observation cages. Plants were watered as needed with 6.7 to 10.1 fluid ounces (200 to 300 milliliters) of tap water. Western flower thrips adults were released onto each of the 35 plants with 10 to 15 per plant. These were allowed to acclimate on the plants for three days. The experiment was set up as a completely randomized design. There were seven treatments, which are presented in Table 1, with five replications per treatment.

The chrysanthemum plants received 2.1 fluid ounces (60 milliliters) of spray solution using 32-ounce plastic spray bottles. Seven days after each application, they were inspected to assess the level of thrips feeding damage based on the following foliar damage ranking scale:

0=no damage
1=very slight damage (minimal leaf scarring; less than 10% of leaf surface area affected)
2=slight damage (minimal leaf scarring; 11 to 25% of leaf surface area affected)
3=moderate damage (leaf scarring; 26 to 50% of leaf surface area affected)
4=severe damage (51 to 75% of leaf surface area affected; leaf scarring and distortion)
5=very severe damage (≥76% of leaf surface area affected; leaf scarring and leaf distortion/minimal leaf expansion)

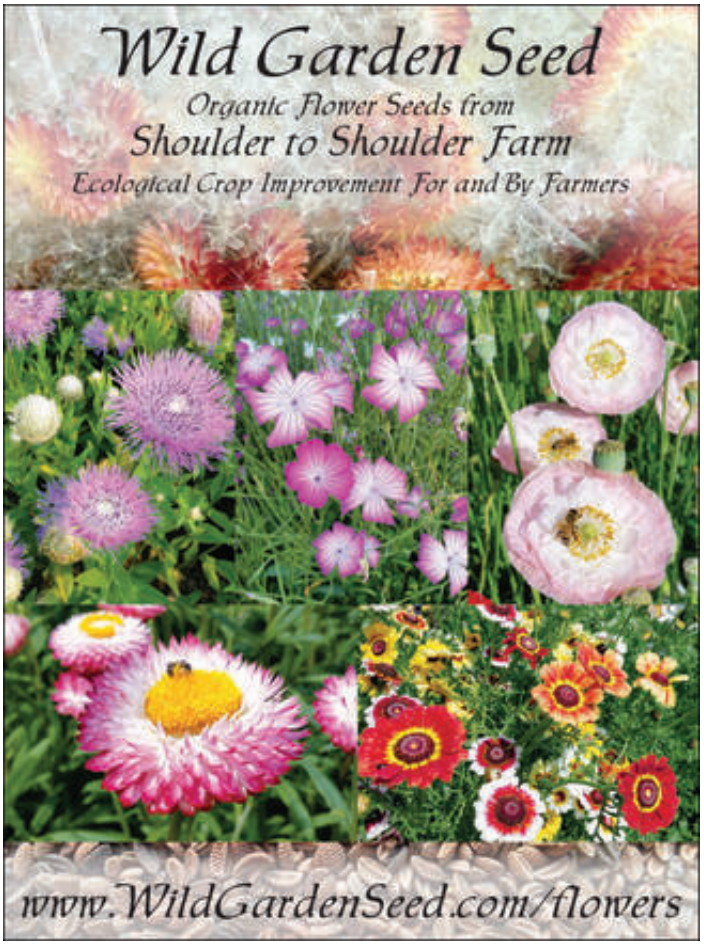
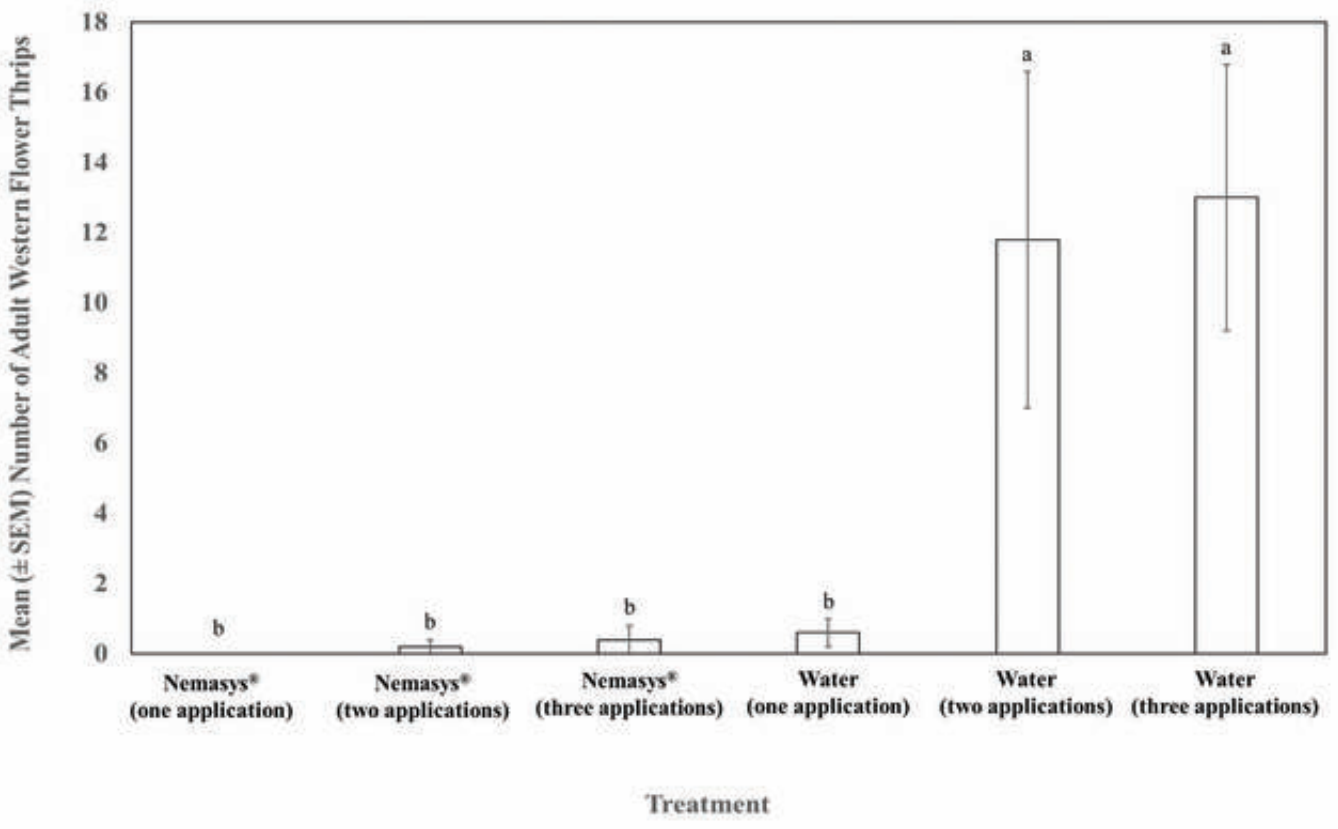


Figure 1. Mean (± SEM) number of western flower thrips, *Frankliniella occidentalis,* adults recovered from growing medium associated with each of the six treatments. Means followed by the same letter are not significantly different (P>0.05) as determined by Tukey's honestly significance difference test. The vertical bars represent the standard error of the mean (SEM).



After recording the foliar damage rankings, chrysanthemum plants were cut at the base and all plant material was discarded. A yellow sticky card was placed on top of each 6-inch diameter container and returned to the observation cage. The yellow sticky card (3.0 x 5.0 inches) was inspected after seven days and the number of western flower thrips adults captured was recorded. The use of the yellow sticky card was an indirect assessment of western flower thrips pupal survival among the treatments.

Data were analyzed with treatment and number of applications as the main effects. The foliar damage rankings never exceeded 1 (i.e. very slight damage: minimal leaf scarring; less than 10% of leaf surface area affected) across all treatments and number of applications (one, two, and three). There was a significant treatment effect associated with the mean number of western flower thrips adults recovered from the growing medium (F=7.07; df=5, 20; P=0.0006) (Figure 1). The mean number of western flower thrips adults recovered from the growing medium in the untreated check was 23.8 ± 9.5 adults.

In summary, the mean number of western flower thrips adults recovered from the growing medium was significantly lower for the entomopathogenic nematode treatments after one, two, and three applications compared to the water control after two and three applications (Figure 1). The water control after one application had very low number of thrips and was not similar to the other water controls. The reason for this result is the short amount of time between the single application and measuring the number of adult thrips that emerged from the growing medium and were captured on the yellow sticky cards. There was no significant effect (P>0.05) affiliated with the number of spray applications on the mean number of western flower thrips adults recovered from the growing medium.

For more information regarding the study,
contact Dr. Raymond A. Cloyd at (785) 532-4750
or rcloyd@ksu.edu

Identification of *Fusarium commune* causing meltdown issue in zinnia cut flowers

Funded by the ASCFG Research Foundation.

Ravi Bika and Fulya Baysal-Gurel

Tennessee State University, Otis L. Floyd Nursery Research Center, McMinnville, Tennessee

Commercial cut flower growers in the eastern and southeastern United States have for many years experienced a postharvest issue with zinnias, commonly called "zinnia meltdown". The most frequent symptom is bent stems, usually just below the flower head. Meltdown reduces yields of cut flower stems, and therefore, income for the grower. The project started in 2017 with an online survey that reported 29 responses from 17 states: Connecticut (1), Georgia (3), Illinois (2), Iowa (1), Louisiana (1), Maine (1), Maryland (1), Massachusetts (1), Mississippi (2), New Jersey (4), New York (1), North Carolina (3), Ohio (2), Tennessee (2), Texas (1), Utah (1), and Virginia (1), as well as Ontario (1) in Canada. According to the survey results, 'Benary's Giant' was the series most susceptible to the zinnia meltdown issue.

The next step was to identify possible causes of zinnia meltdown. Fifteen zinnia cut stems with flowers exhibiting meltdown symptom were collected from a flower farm in Lincoln County, Tennessee. Small sections of zinnia stems and leaves were isolated from the symptomatic zinnia samples and plated on potato dextrose agar (PDA) and *Fusarium*-selective media. The plates were incubated for five to seven days in laboratory ambiance (21 °C, 60% RH and 12-h fluorescent light and dark cycle).

The morphological characterization (pigmentation, growth pattern, shape and size of micro and macro conidia) and molecular analysis confirmed that *Fusarium commune* was the causal agent for zinnia meltdown issue.

To confirm the pathogen '*F. commune'*, a pathogenicity study was performed on three zinnia cultivars: 'Benary's Giant Golden Yellow', 'Benary's Giant Pink', and 'Benary's Giant Lime' at vegetative stage (two weeks after transplantation) or flower bud stage (one month after transplantation).

The fungal conidial suspension (inoculum) was prepared by flooding a 10-14 day old culture of *F. commune*. Three different methods of inoculation were tested on the vegetative and flower bud stages: drench (25 mL of conidial suspension was applied to the substrate near zinnia plant root area); stem injection (30 µL of conidial suspension was injected into zinnia stem using a 1-mL syringe with a disposable needle); and foliar spray (conidial suspension was sprayed on zinnia plant [including leaves, stem and flower bud] until runoff using a handheld sprayer). Control plants received sterile distilled water.

Zinnia stems were harvested when the outer petals of the flowers were fully expanded, and displayed under laboratory conditions. Similar symptoms, such as stem bending just below the flower, were observed on inoculated zinnia cut flowers of all three cultivars two days after harvesting.

Fusarium commune was re-isolated from the infected flower stems of all three cultivars of zinnia, but not from the non-inoculated zinnia flower stems. We observed that the zinnia stem colonization by *F. commune* was statistically similar in all three tested cultivars regardless of plant growth stage and method of inoculation. The typical meltdown issue observed in zinnia cut flowers in postharvest condition might have been due to vascular occlusion; the microconidia of *F. commune* may form a cluster in vascular tissue, hindering the water uptake that can lead to bending of the stem below the flower during postharvest vase life.

In conclusion, the morphological and molecular analysis, as well as pathogenicity tests, confirmed that *Fusarium commune* is the causal organism for zinnia meltdown in Tennessee. The next steps in this project would be to screen cultivars for sensitivity to *F. commune*, and identify possible sources, such as irrigation water, transplants, soils etc. of *F. commune* in the zinnia production area. Additionally, we are still accepting infected zinnia samples from other states, and conducting pathogenecity studies on the zinnia meltdown issue.

So, what can be done to prevent zinnia meltdown? Control methods are still being developed, but growers report that it helps to be sure buckets and cutters are clean, and fresh solutions are used. Growers report success with using commercial hydration or slow-release chlorine right after harvest.

For more information, please contact
Dr. Fulya Baysal-Gurel (fbaysalg@tnstate.edu).

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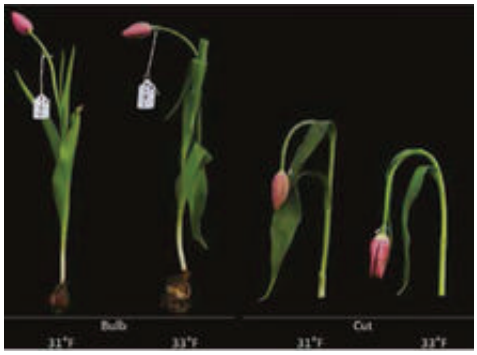

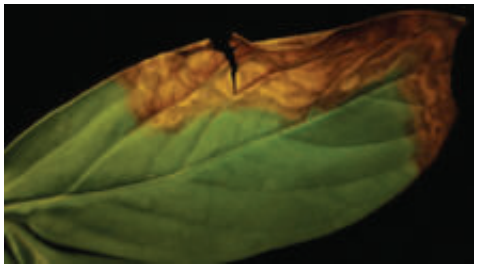

Should cut tulips be stored with the bulb attached or removed? What kind of soil bacteria may be beneficial to plants? Are there benefits to producing peonies in low tunnels versus the field? What is the cause of zinnia meltdown?

These are just a few of the topics that have been addressed by floriculture scientists, assisted by funding from the Association of Specialty Cut Flower Growers Research Foundation. Since 2004 this separate arm of the ASCFG has awarded grants of varying sizes to university and extension personnel to study issues related to cut flower production. This competitive grant program is open to universities and colleges, governmental agencies, and other tax-exempt 501 (c) (3) organizations.

If you value this kind of investigation into the plants you grow and their methods of production, or if you're looking for solutions to issues you may have on your farm, please support the ASCFG Research Foundation. It's easy to donate on the ASCFG website, or to include a payment with your membership renewal form. Be sure to include your suggestions for research projects.

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Soil Biology Battleground! Managing Root Knot Nematode with Anerobic Soil Disinfestation

Funded by the ASCFG Grower Grant Program

Rachel Cross, Spirit of Walloon Market Garden, Boyne City, Michigan

At my flower and vegetable farm in Northern Michigan, we have been noticing an upward trend in root knot nematode (RKN) populations over the last few years, especially in the protected conditions of our hoophouses. This microscopic, tenacious soil-borne parasite infects and malforms roots, resulting in low vigor, reduced yield, and sometimes outright death in susceptible crops. Many cut flowers are prone to RKN damage, including lisianthus, snapdragon, celosia, stock, and sweet pea.

Anaerobic soil disinfestation (ASD) is a novel approach to controlling soil pathogens such RKN and other plant-feeding nematodes, fungi, and bacteria. Dr. Anna Teston and Dr. Sally Miller at Ohio State University (OSU) have researched ASD and developed a method for its use. In this method, a carbon source is added to the prepared, unplanted bed. The soil is brought to saturation, and is then covered with silage tarps to create anaerobic conditions. The microorganisms that proliferate in these conditions create organic compounds that are toxic to soil pathogens like RKN. After 3-5 weeks, and ideally soil temperatures above 85°F, the tarps are removed. Unlike synthetic chemical soil fumigation, this technique is biologically based and suited to the ethos of sustainable flower production. Besides preserving soil health, the process also conserves time; ASD is faster than other RKN reduction strategies such as solarization, a fallow period, or a rotation with a non-host cover crop.

The research done at OSU focused on ASD use during the summer months; we planned to utilize ASD during the early season to see if the effect on RKN populations was similar without sacrificing valuable protected space during the main growing season. In correspondence, Dr. Teston noted that RKN was affected in their trials even during cool fall temperatures. We were interested in 3 week, 6 week, and 8 week treatment durations. Two of these were longer than the OSU treatment to account for cooler early season temperatures.

Root knot nematode galls on lisianthus.

Procedures

We planned to trial the ASD treatment on four beds: HH Bed A for 3 weeks, HH Bed B for 6 weeks, HH Bed C for 8 weeks, and field Bed D for 5 weeks during the summer which was to act as our control compared to the original OSU research. However, we hit a hiccup in our plan when field bed D ended up not containing any root knot nematodes! A good thing for the soil, but not ideal for this experiment. We ended up trialing just the 3 hoophouse beds.

Some materials were slow to arrive, so we ended up starting 3 weeks later than originally planned. On week 13, 2020, beds A, B, and C were sampled for nematodes. These soil samples were sent off to Michigan State's Plant and Pest Diagnostics lab. As we observed in 2019, many parasitic nematodes were present, at high risk levels (see chart for population counts).

The 3 beds were then prepared with any needed minerals based on our fall soil tests. Based on OSU recommendations, for our carbon source we added wheat bran at the rate of 6 tons per acre and an OMRI-listed molasses product (LCB-F TerraFed) at 24

gallons per acre. For one of our standard 2.5' x 96' greenhouse beds, this was an application of 66# wheat bran and 18 oz TerraFed per bed. The wheat bran was easy to source; we found it both at our local feedstore and through our farmer's co-op. These amendments were worked into the soil, and then the soil was watered with drip irrigation for 5-6 hours, or until we were as close to saturation as we could get on our sandy soils. OSU recommends watering until surface puddling is observed, but this doesn't really occur with our soil type here. Before tarping, a HOBO Pendant MX Water Temperature Data Logger was buried 1" deep in the middle of each bed to track soil temperature over the time of treatment, and importantly, marked with a flag for easy retrieval!

Materials for ASD - molasses, wheat bran, data logger, marker.

Beds B and C after carbon additions and irrigation.

After this bed prep, we covered the beds with 5 mil black/white polyethylene silage tarp, black side up to encourage soil warming, burying the edges to create sealed, anaerobic conditions. We ended up leaving the drip lines in place to irrigate during treatment (another decision based on our soil type).

In the process of tarping - next step, bury edges.

Bed A was uncovered week 16, bed B week 19, and bed C week 21. At the point of uncovering, soil samples were collected once again and sent to MSU for nematode population analysis.

After uncovering, we intentionally tried to re-inoculate the beds with some beneficial soil biology. The downside to creating anerobic conditions is that you are most definitely killing off more than just pathogenic soil microorganisms; the good guys are going down with them. Before planting, we gave the beds a 5-day recovery period, during which we added compost and made two applications of vermicompost tea and lactic acid bacteria solution

Results

The good: We were very pleased to see huge reductions in RKN numbers immediately after treatment! The longest treatment at 8 weeks had the greatest reduction (at a whopping 95%); this treatment also reached the highest soil temperature at 94.5°F, which may have

Bed B untarped after 6 weeks. Plenty of bran remained, but all was at least partially decomposed. Next step, good microbe additions.

aided in its efficacy. However, even the shortest treatment at 3 weeks experienced an 88.9% reduction in population. The average soil temperature was actually greater in this treatment than the 6-week treatment, likely due to a cold snap we endured in late April/early May of 2020. Regardless of treatment duration, every treatment was effective, both in terms of population reduction and our own observations of the crops afterwards. The lisianthus crop in bed A, besides not having root knot evidence when pulled in the fall, was also one of our most disease-free plantings ever. Beds B and C were planted to summer tomatoes (which were very vigorous), and then to overwintering flowers (ranunculus, snapdragon, anemone, poppy, larkspur) in October.

The bad: Experiment-wise, this wasn't the strongest science. No replications, and, in the end, no real control. In hindsight, we should have left a portion of each trial bed untarped and also tested that after the treatment period to account for any seasonal variations in RKN populations. Worst of all, the root knot nematodes came back! Testing in February of 2021 showed increased but still low levels of RKN in beds A and C, but in bed B they were back to nearly 75% of their original pre-treatment problem levels.

Spirit of Walloon ASD Treatment Data

Bed	Trial	Dates of Treatment	Pre-treatment RKN per 100 cm^3 soil	Post-treatment RKN per 100 cm^3 soil	Percent reduction in RKN population	Average soil temp.	Minimum soil temp.	Minimum soil temp.	RKN populations 11 mos. after treatmant (RKN per 100 cm^3 soil)
A	3 wk ASD	3/28 - 4/18	305	34	88.9%	62.1 °F	79.6 °F	53.2 °F	40
B	6 wk ASD	3/28- 5/9	325	65	80%	59.4 °F	78.7 °F	46.4 °F	242
C	8 wk ASD	3/28- 5/23	160	8	95%	58.9 °F	94.5 °F	45.8 °F	60

Bed A - lisianthus on the right.

Farmer Jess with an armload of post-ASD lisianthus.

Beds B and C of summer tomatoes before winter flowers; as tomatoes are highly susceptible to RKN damage, it was great to see vigorous plants after treatment!

The Take-away

Anaerobic soil disinfestation wasn't 100% effective in managing root knot nematode, and it appears that it needs to be a yearly procedure as RKN populations reestablish, but in our trials (of all three durations) it did seem to cause a huge reduction in population levels that lasted at least through the growing season. It was also low cost (50# of bran is less than $10), simple to do, and ecologically sound. We are continuing to utilize ASD at the farm in 2021 (right now, week 11, we are prepping four more hoophouse beds for the process). It's not a cure-all, but it's a valuable tool in the sustainable flower farming toolbox.

Acknowledgments

A big thanks to:

- The folks at the ASCFG for funding grower research.
- Dr. Anna Teston and Dr. Sally Miller for their original research, and especially Dr. Teston for offering so much invaluable consultation and advice during this project.
- Dr. Fred Warner, MSU nematologist extraordinaire.
- Jess and Amanda, super farmers and employees of the decade for putting up with my experiments.
- Nick and Susan for proofreading and all-around good advice-giving.

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NORTHEAST

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In late February I had the pleasure of hosting the ASCFG's first ever Virtual Growers' School. Admittedly, I hate "virtual" things. Our country internet is feeble at best, and I simply prefer genuine human interaction. That said, I appreciate that we were able to pull off a Growers' School in the midst of a pandemic, that attendees weren't limited by their ability to travel, and that the course could be taken at a slower pace, giving more time for the material to sink in.

Our speakers were all very candid, genuine, and informative, but one moment is still sticking with me. In a closing panel discussion, we were answering the question, "What should a new grower invest in first?" Solid answers such as a cooler, soil health, perennials, and deer fencing were given, but Ellen Polishuk answered "a therapist." If you've had the pleasure of hearing Ellen speak, you know she doesn't mince words. It wasn't the answer we were expecting, but was probably the answer we all needed to hear. Just as your soil health has a direct bearing on the success of your farm, your mental health is crucial to the health of the farmer and your long-term success.

In our early years of farming we bought into the notion that you have to be physically and mentally exhausted at all times or else you are farming wrong. So we worked from dawn to dark trying to launch our flower farm/bakery/goat dairy empire all the while raising vegetables, pigs, lambs, and poultry for homestead use. We were on food stamps as every one of our very few pennies went to fund some part of the operation. At several points each season we would hit the proverbial wall where you question your life's choices and try to find some way to keep on keeping on for another day.

In retrospect I can see that we were doing too much. We didn't have a clear business plan or direction. We weren't realistic about our own physical capacity, and were in complete denial of our mental health needs. Over time we streamlined the business and hired help, but still operated on that fine line where the smallest bump could derail everything. A late-night email from a bride wanting to discuss something as insignificant as the ribbon color on the flower girl basket could bring me to literal tears.

The main reason I encourage people to start off slow is that you can quickly overwhelm yourself if you try to do too much without a good foundation. Failures are guaranteed in farming and it's how you respond and move on that will determine your success.

I now know that I was dealing with garden variety anxiety. I had plenty of friends in therapy and I didn't view therapy negatively, I just didn't think I needed it. And then one day the workload, the weather, the bugs, the bills, the staff, the customers, and the nonstop grind just got to me. I just sat down in the barn and didn't know what to do to make any of it better. So I got some help. I have to say everything has been better since then. I'm a better husband. I'm a better boss. I'm better to myself. I have a clearer head with which to make better growing and business decisions. I'm more compassionate to others when I sense they may be struggling. Ellen was spot on. I had missed one of the most crucial pieces of the puzzle—my own wellbeing.

I opened the first session of the Growers' School by stating my opinion that despite what some will tell you, most of the time flower farming is neither easy nor reliably profitable. There is a fair amount of fantasy and fiction surrounding what we do. I always encourage new growers to take it slow and gain one skill at a time. This is a tough field that draws on horticultural skill, marketing prowess, business savvy, and a keen understanding of the international floral trade (yes, this directly affects your business). If you start by becoming the best cut flower gardener you can be, you will experience the most rewarding part of growing flowers,

and you can make a more sane transition into business if that feels like the logical next step. Gardening is a magnificent hobby, and I have a hunch that many new growers feel like they have to justify their new hobby by monetizing it.

The main reason I encourage people to start off slow is that you can quickly overwhelm yourself if you try to do too much without a good foundation. Failures are guaranteed in farming and it's how you respond and move on that will determine your success. So while you are learning about seed starting, soil health, postharvest strategies, business, marketing, and all of the other pieces to this occupation, take the time to look inward and learn a little more about yourself. Don't be afraid of getting help. It's like compost for the mind.

MID-ATLANTIC

Delaware, Maryland, New Jersey, Pennsylvania, Virginia, and West Virginia

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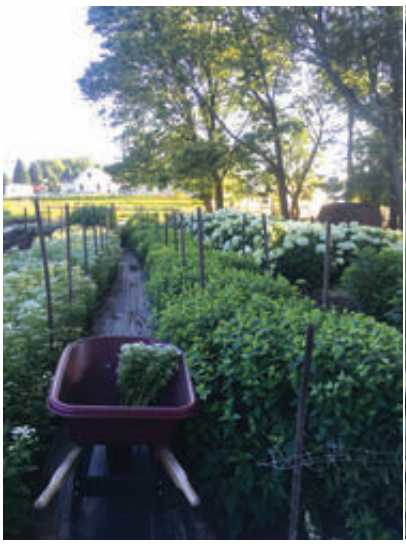
Managing Walkways

There is always a lot of discussion on how to keep farm pathways clear of weeds. We've tried a bunch of systems, and here are three of my favorites.

Weed barrier walkways for perennials. Our perennials are in open beds with permanent weed barrier walkways. We anchor with earth staples. I prefer open beds for perennials so that they can spread as much as possible. The weed barrier stays clean and we can access the beds in early spring when wet soils are a concern. I clean the pathways a few times a year with a leaf blower to keep them clear and tidy. Because our perennial field is on a hill, about every 4 years we must rake up the lower side of the bed that is caving onto the path.

Planted pathways for annuals on plastic. We grow most of our annuals in biodegradable plastic film. We've developed a slick system to seed the pathways with a cover crop that feeds the soil while suppressing weeds. We can seed our 1½-acre annual field in about 3 person hours using the following system:

- As soon as the plastic is laid and the soil is still loose, use a bag seeder to broadcast seed over the whole field.
- Have someone come behind with a leaf blower (backpack preferred) and blow the seed off the plastic.



Weed barrier paths for perennials.

Transplanting June 3, pathways seeded April 24.

- Drive the tractor over the pathways once, using the wheels to flatten the pathways and increase seed-soil contact. Tractor is straddling the beds during this.
- All the above should be done the same day you lay the plastic, and definitely before the field's first rain.

After the cover crop is established, we mow the pathways with a walk-behind mower. During certain times, this can be a weekly task. After trying lots of mowers, I am partial to the old-school DR field and brush mower. If I had the luxury of more land, I'd make wider aisles and mow with a riding mower. Either way, our fields are very tidy, and we never use herbicide to keep paths clear.

I've tried many cover crops for this system, thanks to an ASCFG Grower Grant years ago. My current favorite is annual rye because it grows slowly enough to not need constant mowing, plus it establishes quickly in spring to cover soil and suppress crabgrass germination. For quickly increasing organic matter, oats are very effective. We were not happy with clover because it crept into the plastic.

Perennial pathways for shrubs. We planted our paths with red clover, but they've evolved to a mix of grasses, clover, and weeds. We mow this several times throughout the year, mostly when any of the weeds are flowering. Our shrubs are on a hillside, and the permanent planted strips help control runoff and erosion.

SOUTHEAST

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee

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Update on Forcing Bulbs—People Love Them!

I know, I know. It looks like that at least once a year I write about forcing bulbs for tabletop gardens and I honestly wasn't going to do it again but SO many members are giving them a try and have reached out for advice and feedback—and our sales have honestly gone through the roof—that I thought an update might be useful.

Holiday Bulb Sales Were CRAZY

This past year I bought 900 amaryllis—DOUBLE what I purchased in 2019, which also had been double what I got in 2018—and it was definitely scary, for sure, since these bulbs are such a big investment.

When I was contemplating my bulb order early last summer, I wondered if COVID might still be hanging around in the fall and if that were the case, people would be dealing with the prospect of not seeing loved ones, holding only teensy holiday gatherings, and hankering for some beauty in their homes. So, still coming off the "high" from our record

Peruvian amaryllis are eager to begin growing as soon as they get some heat and light. At this stage, they're also easy to hold in the cooler.

Sales at a local antique and mid-century modern store increased by six-fold this year.

Mother's Day peony sales, I dove headfirst into planning ahead for what would hopefully be huge holiday sales for our little farm.

My bulb order was about 60% bulbs from Peru that I'd sell in "big ole fat bud" stage in either their 6" green growers' pots, or transplanted into great containers as tabletop bulb gardens, and 40% Dutch bulbs that I'd sell loose and also use in forcing kits.

If you've read my past columns, you know that I sell a ton of my bulbs and bulb gardens during a well-known and very popular garden designer's two-day Holiday Open House at his family's delightful store. I'm referring to Jon Carloftis and the Rockcastle River Trading Company. In early November it was cancelled due to COVID concerns.

Last year I also tested selling them at a really popular local antiques and mid-century modern store (Scout Antique & Modern) where the owner is also a plantsman. He loves talking about them to customers and they always sell out within a day of me bringing them (and posting photos on Instagram and Facebook). Last year, I didn't bring anything in until the Sunday before Thanksgiving; this year we decided to start with loose amaryllis and paperwhite bulbs at the beginning of November, and move in the bulb gardens in the middle of the month.

I posted photos and prices on our website, but we don't do online product sales (yet), so we rely on social media to get the word out. We do porch deliveries but didn't do a single popup at the farm; we didn't have time and it just wasn't needed.

Whenever I took more bulbs and potted containers to Scout, I posted it on IG and FB. I also let people pre-order from me via text or email to pick up and pay at Scout. That

really cut down on the number of deliveries we were making (we had our hands full!) and Scout appreciated it. This year we sold almost six times what we did at Scout last year, and could have been more.

We still held our day-long Flower School in mid-November, focused on the art and science of forcing holiday and spring bulbs. One of our first-time students is a local periodontist who came with two sisters and a friend. After the class she asked if we could deliver *50 of our $95 amaryllis bulb gardens as gifts to her referring dentists*. Wow! She's been so happy with the response she received from those dental offices that she's doing it again this year.

Nope, it's not a fruitcake! New for us this year: shipping dormant bulb gardens.

One of the biggest things we added was to tiptoe into shipping. I was feeling stressed that I might have ordered too many dormant Dutch bulbs because everyone wanted the soon-to-bloom bulb gardens. The only advertising about this new offering was the photos posted on our IG/FB feed—and that totally did the trick!

Our bulb gardens featured three 36-38 cm size amaryllis bulbs in totally dry ProMix (with activated charcoal sprinkled underneath), dressed in reindeer moss and tied up with a satin bow. The garden fit perfectly into the large USPS flat rate shipping box. The price for these included shipping and handling, which I'd already figured into to the higher price point.

It's crazy to think we mailed out more than 50 of these gardens all over the U.S. and people wanted to send out more, but by December 11 we were totally sold out—*sold out on every single bulb we had to sell.*

It has been so exciting to see what lots of you guys are doing too, and that you're sticking with the largest size amaryllis and not being shy about what you're selling your bulbs and bulb gardens for. Good for you! Once people see what a show those 36-38+ cm amaryllis put on, they're hooked on what you're offering them. Even with 34-36 cm size bulbs, the display is heads and shoulders above anything else available. If you have no option but to go with smaller bulbs, just know you'll need to put more of them in a bulb garden to create a show-stopping display, but it will be worth it for you not to scrimp on adding those extra bulbs. You're creating a name for yourself, and first impressions are key to that.

And Spring Bulbs Are Following Right Behind

Forcing spring bulbs for tabletop bulb gardens takes more preparation than amaryllis and paperwhites do. First, they'll take 10-12 weeks of chilling time, which is perfect for an empty cooler. For more specifics, just take a look at my article in the 2020 Spring *Quarterly*, which was all about spring bulbs.

This year I was worried about how many bulbs to order. The big high-end Antiques and Garden Show, where we typically sell the majority of our spring bulb gardens the first weekend in March, was cancelled as of last fall. Not sure how I could make up for that loss of market, I ordered a little fewer of the 6,500 bulbs I typically do and, again, crossed my fingers.

Apiary, a gorgeous fine catering and private events venue—who pivoted so smartly during the pandemic from doing only private events onsite to opening its site and incredible culinary team through a wildly popular Hive Culinary Club with exclusive members-only dinners in its elegant gardens and orangery, and once-a-week meals to go—asked if we could collaborate on a new concept, beginning with a Brunch Flower School limited to 40 guests. When the event opened to the public via social media, it sold out in two hours. Yep, very hectic but totally amazing!

Spring bulb garden by fellow ASCFG member Mindi Ries of Petal Flower Farm.

Our two February Spring Bulb Garden workshops immediately sold out as soon as we opened registration. As I write this, we're in the midst of potting up Spring Bulb Gardens to take to Scout, and will also offer them in local porch deliveries. We've had a brutally cold and dark spring; people are once again hungering for fresh and fragrant beauty in their homes and to have us deliver to friends and family.

I'm so happy to see that some of you brave souls have also tip-toed into Spring Bulb Gardens. Just look at what Urban Buds has done, for example! As I said, it's a bit trickier than holiday bulbs but, after all, we seem to thrive on challenges and bringing the "specialty" to everything we grow, right?

Even during the pandemic, and limited class size, workshops are a hit!

The Moral of the Story?

As I look back, I'm so glad that we've spent the years gaining experience and knowledge forcing holiday and spring bulbs so that we can share it with you, and hopefully have more flower farmers WOWING their customers with gorgeous blooms in their homes in the winter and early spring.

Now is the perfect time to think about giving it a try this year. There's time to order bulbs and you can and should start small, forcing some gifts for family and friends. If you enjoy it, order more next year!

NORTH AND CENTRAL

Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming

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In January I started my term as the North and Central Regional Director and have been spending some time getting familiar with the membership numbers. I'm sure you are all aware the number of flower farmers is exploding. I know this is true in Minnesota as there are new farms emerging all around me. I hear this scenario from flower farmers in other states, too, and the increase in demand for seeds and other farming and gardening supplies is another telltale sign.

Each issue of *The Cut Flower Quarterly* lists all the new members who have joined the organization since the previous issue, and it's the first thing I glance at when the *Quarterly* arrives. I love to see names of people I know who have joined, and it helps me know what new farmers might be entering the market in my region.

One thing all farmers should do is become familiar with other flower farms in their market and do a little research about what they are selling and to whom. This information can be obtained from websites and social media posts to a large extent, but if you have the opportunity to get to know

Twelve flower farmers who have become friends. 2019 Design workshop with Ashley Fox Designs at Arcola Trail Flower Farm. Photo credit: Marit Williams Photography.

some of your "competition" you might be able to form some mutually beneficial relationships. You are bound to find out that each farm has a different niche, target market, or unique products or services, and it may help you decide where to focus your efforts and how to differentiate your business in the marketplace. While it can be upsetting to see new farms pop up in your market, keep in mind that cooperation vs. competition is most likely the best strategy.

When I joined the ASCFG in 2015 there were only about 800 total members. Today there are over 2,400. The North and Central Region has 568 members or about 24% of the total ASCFG membership. The North and Central Region has experienced the largest increase in new members of any region over the past five years. After all, we are the heartland!

I thought you might find the following North and Central member numbers by state interesting (as of March 8, 2021):

Ohio	109
Michigan	94
Illinois	65
Indiana	59
Wisconsin	45
Missouri	42
Minnesota	41
Kansas	34
Iowa	31
Montana	19
Nebraska	13
North Dakota	7
South Dakota	5
Wyoming	4

The growing list of new members confirms what we already know—flower farming is trendy right now and continues to attract new farmers. As this trend continues, be aware of new farms, do your research, differentiate yourself, and look for ways to collaborate or at least share some flowers. You might make some great friends along the way. I know I have.

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SOUTH AND CENTRAL

Arizona, Arkansas, Colorado, Louisiana, New Mexico, Oklahoma, Texas, and Utah

Shanti Rade
Whipstone Farm
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After one full year of a global pandemic, with all the personal losses, business hardships, and global repercussions, I find myself surprised to witness the annual joy of spring. Daffodils blooming, trees budding out, our American kestrel nesting boxes inhabited, the grass greening up, and of course, prepping and planting like mad for the coming season. While life still feels precarious, there are many things to look forward to this coming year. I received my first COVID vaccine (as an essential worker), many of the systems are now in place to deal with the inevitable market shifts, and life in flux feels like more the norm than the exception. I feel like we are ready for anything.

Homeschooling/unschooling projects

So many lessons have been learned over the past year. For me personally, that includes implementing a real online sales platform, shipping flowers, managing employees during a health crisis, homeschooling, applying for government assistance programs and not feeling bad about it, and finding personal time to enjoy myself outside of farming. This list could go on. I know so many of you are in the same boat. And yet, here we are all, continuing to grow flowers, trying to ensure our businesses and families survive, and coming together to learn and do better. I am so grateful for the ASCFG community and all we give to one another.

While I don't have many words of wisdom to offer these days, I just wanted to share a bit of our focus this year.

Plant Sales

As the home gardening trend continues to be off the charts all around the world, we have invested heavily in spring plant sales. It's hard to give up greenhouse space I am used to having for my own vegetable and cut flower transplants, but the demand is so high. There are plenty of other sources for folks to buy seeds and starts locally as well as obtain gardening information. But our customers prefer to go to those they trust. And that's us. I feel honored that people trust us to give them the right information, quality plants, and dependable varieties at the appropriate time for planting. It's really exciting to see all the enthusiasm and trust they put in us. Selling a plant before it goes into the ground does feel a lot more secure than having to worry about frost, heat, pests, bloom time, and stem length. Plus it has more than a one-week shelf life. So, while plant sales are still new to us, I am really thrilled to expand in this area.

We are doing full-on flower gardens in a tray, with curated color palettes and themes like drying gardens, fairy gardens, and edible flowers. Also tons and tons of veggies, which we grow anyway, so it's a no-brainer. Next year we plan to build a larger propagation house just to accommodate this expansion—maybe even some equipment to help automate the process.

Seeds

Due to the uptick in home gardening, I am sure you have all noticed seed shortages and longer waits in receiving your seed orders. It's pretty obvious that seeds are in high demand. I am really happy to be venturing into growing seed out this year—a few for trials and more for contracted seed

that I am selling back to a seed company. This is totally new for us, but I can't wait to see the results. It seems easy (since I haven't done it yet commercially). Plant, make sure you grow a good crop (and that it is isolated and pollinated), and harvest once (or twice) when the seed is good and mature. I look forward to writing an update on this venture in a future *Quarterly*. In the meantime I encourage everyone to do some seed saving trials of your own. It's rewarding and addictive. The information on how to grow flower seed is extremely limited out on the interwebs, so some collective brainpower and experience will be very helpful for everyone.

Wholesale

We started selling to wholesalers in a big way last year, after quite a few years of trying to get our foot in the door. It was really successful. And while every sector of the flower industry can be precarious these days, I really feel solid trying to focus on this arena for our scale of business. Our farmers' markets were all over the place last year in terms of when they opened, how they operated, and what the rules were. More sales with less contact feels like something I can handle right now.

Systems

Okay, nothing new here as I am always trying to hone in on our systems. But we are trying to up our equipment game a lot this year. In particular I have been chatting with a few ASCFG members about Jang seeders and what rollers are working for which crops. Direct seeding crops can be a huge time-saver if you can get the seeding rates right and you have your weeds in check. If anyone is using a Jang seeder for flowers I would love to connect! Then I can write a follow-up report on what's working for folks. I am going into my second year using the Paperpot Transplanter and the Kult-Kress Fingerweeder. If anyone has beta on those, I would love to chat.

Tried and True

We are trying some new varieties this year, of course, but not as many as usual. I am all about going bigger on the things that are working for me and finding the best markets to absorb the product I know I can produce well and consistently.

Wishing everyone a smooth and successful 2021 growing season. I look forward to hearing your success stories (and the failures you've learned from them along the way) and I can't wait until we can see each other in person one of these days soon.

WEST AND NORTHWEST

Alaska, California, Hawaii, Idaho, Nevada, Oregon, and Washington

Erin McMullen
Rain Drop Farm
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Do you own a shovel? Sure you do. Do you love using that shovel? Maybe? Sometimes? No thanks? Yeah, me too. I know that a shovel is essential and it's a tool that we use on our farm almost every day. But it's not my favorite way to get things done. Sure, sometimes it's the right tool, and sometimes it makes sense, but sometimes there are ways to make things happen without quite so much work.

This has become more evident over the years as we have grown from a half acre to ten, as we grew from a crew of two to one of nine-plus, and, maybe most of all, as we've moved from young twenty-somethings to more—ahem—mature farmers. Turns out that old adage of work smarter, not harder is real and applicable to farming...who knew?

Last fall I sat down to do my orders, while balancing kids in online school, a 2-year-old, a full crew, and trying to keep us all in clean socks. To say I was distracted is an understatement. I frantically tried to put together all the orders I knew that I'd need, sending them out and promptly moving to the next thing on my list. Fast forward to January

when shipping confirmations and boxes started to show up left and right, things that I had totally forgotten were coming. It really wasn't that big a deal, and we were keeping up pretty well. This was the first winter that we kept crew members on through the lean months of December and January, and it was great to have projects to keep them busy. All was rolling well until a confirmation showed up reminding me that I had ordered almost 1000 more bare-root roses, and that they'd be here in a few weeks. Oops.

And then it was a week out and one of our three winter employees went out sick—for three weeks. So we were left with two crew members, and the two of us, and 1000 bare-root roses to get in the ground. Enter a little farmer panic. Not to worry, though: Mr. Aaron found a way to get those roses in the ground. He went out and bought an auger for our tractor. I was thoroughly unimpressed. It seemed like a huge tool that may or may not work. The first run did not convince me. The ground was wet and our learning curve was steep, resulting in deep ruts in the pathways and ruined weed mat. However, with a little finesse and a few hundred more holes, we got the swing of it and were able to plant all 1000 of those roses in about a week. Not only was it far less backbreaking than digging all those holes with my favorite shovel, but the holes that the auger dug spit out fine soil as opposed to the clods that we end up with when we're using shovels, making planting a breeze.

In short, I was sold. So much so that I bought another auger, this one gas powered and hand operated, for our dahlia planting. We have always planted our dahlias by hand. We've talked over the years about trying to figure out a way to automate or at least mechanize parts of the process, but have been overwhelmed by the infrastructure that we see elsewhere, not to mention the cost of equipment. I'm happy to report that we've found our labor on dahlias to be greatly reduced by the addition of this simple $300 auger. Now, instead of everyone digging holes, just one person runs the auger and everyone else streamlines the process by fertilizing, laying tubers, planting and mulching. And boom, we've got five rows planted in the time it would have taken us to plant one last year. Shaving off the hours of labor, not to mention the wear and tear on the crew, has already paid for the piece of equipment. What would take three people an hour to dig and prep took less than 20 minutes with the auger. It made me feel a bit silly for balking at the upfront cost, when I look back and see how the benefits so far outweighed it.

Each time we make the leap to try something new (to us) with success it gives us more confidence in our capabilities and makes us more assured that we can do this. Sometimes it doesn't work, but is that a failure? Absolutely not.

How had we not discovered this earlier? What else could we use this for? What else am I breaking my back over, when there is a far smarter way? I'm always on the lookout for ways to work smarter, not harder and I encourage you to do the same. Each time we make the leap to try something new (to us) with success it gives us more confidence in our capabilities and makes us more assured that we can do this. Sometimes it doesn't work, but is that a failure? Absolutely not. Trying, regardless of outcome, is about learning and adjusting to find the best fit for you. What works for me may or may not work for you, and vice versa, but how will we know unless we try.

Here's hoping that we never stop trying new things and continuing to develop ourselves, and our farms! Happy growing!

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No one has ever become poor by giving.
Anne Frank

As we pass the one-year anniversary of COVID-19 and move into 2021, it is even more important that kindness is a theme going forward in our society.

"If you can be anything in this world, be kind".

I know, reading that can be a floaty, utopian idea. Sometimes being kind can be really hard. But it is definitely rewarding. Maybe not instant gratification but rewarded someday, somehow.

This past December I was working alone on holiday orders in my workshop. Due to scheduling and COVID restrictions my team wasn't able to be on the farm with me. I spent the days working away on wreath and arrangement orders. I listened to a lot of podcasts—some flower related, some business, some comedy, and some true crime.

Deanna Kitchen, Twig & Vine Farm,
Founder: Growing Kindness Project

One podcast I listened to a lot was The Flower Podcast with Scott Shepherd. On his December 13, 2020 episode (#112), he interviewed Deanna Kitchen of Twig and Vine Farm. She has started the non-profit The Growing Kindness Project. I was inspired by the humble and genuine kindness that Deanna shares.

From the website: The Growing Kindness project started when Deanna, an aspiring flower farmer, accidentally planted more dahlia than she could market. Together with her family, she started delivering flowers throughout her community, sharing flowers at bus stops, doctors' offices, and retirement homes. With every delivery Deanna discovered that when they held out flowers, they held out a powerful catalyst for sharing kindness and fostering connection.

After listening to the episode, I reached out to Deanna about growing the project into Canada. Originally the project was only in the U.S. There had been interest from New Zealand too. I was excited to talk to Deanna and find out how I could be part and what I could give.

Dahlias are the mascot flower of the project, mostly because the "giving nature" of the tubers. You plant one tuber and when you dig them up you will have many more, enough to share and give away for others to enjoy. I knew that I had WAY more dahlia tubers than I needed and I don't know why but I'm not excited to sell tubers. So I knew I had some to give. Because of the international shipping restric-

tions, Deanna isn't able to send tubers across the border so I am helping with that by providing tubers for Canadians in the project.

The project definitely focuses on "starting where you are and giving what you can". There is no expectation on the amount you give. There are three levels of participation. There are Ambassadors like me. Ambassadors do not need growing experience, just a real commitment to grow and give flowers. The Ambassadors receive growing instructions (if needed), part of the online community, to lead by sharing the message of the project and encourage others to give, Growing Kindness tags to put on arrangements and (in the U.S.) a set of tubers. Cultivators are team members who want to be involved and help the project, but not necessarily lead others. Gardeners are committed to growing and sharing flowers they have. There are Growing Kindness Gardeners all over the world.

During the past few weeks there have been webinar sessions led by Growing Kindness Contributors. There have been webinars presented by Sarah from Triple Wren Farm, Sarah and Tom from Grateful Gardeners, and other Growing Kindness Ambassador alumni.

The passion is evident in the Ambassador team. We have heard about wonderful sharing in the group about how they plan to give flowers this season, to long-term care homes, frontline workers, in schools, church communities, foster and adoptive families and so many more ideas. I am planning to set up a Growing Kindness plot on my farm. My farm team and I will choose places to share our flowers this summer. Hopefully the gathering restrictions will lessen for us and we will have sharing opportunities with people in my region that have signed up for the project.

There are many ways you can give back to your community and share the gift of Kindness. As flower farmers we may not always realize the power that is in our flowers! I challenge you to find a way to give. It doesn't have to be something big and no one else has to know about it. You will get out of it just as much as the recipient. I'm reminded of the "Magic Penny" song I learned as a child: "Love is something if you give it away, you'll end up having more".

Me and my 'Café' beauties.

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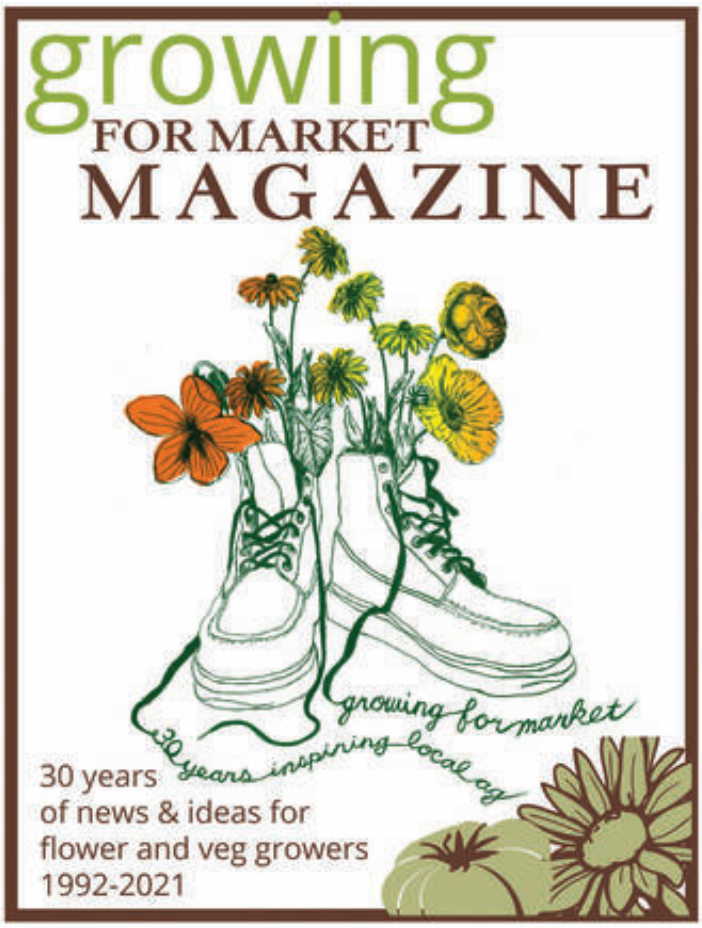
Sheena Nash, Beyond the Bloom Farm & Floral, Aumsville, OR
Darcy Neumann, Prairie Girl Flowers, Fargo, ND
Kedron Nicholson, Twin Run Flower Farm, Watkinsville, GA
Chandi Nunley, Flower Child Bloom Farm, McMinnville, TN
Tracie O'Brien, Double T Farm, Wildwood, FL
Maureen O'Loughlin, Duffy Hill, Enosburg Falls, VT



Blue Ocon, Bluems Chicago, Chicago, IL
Lacie Orysen, Field Road Flowers, Fall Creek, WI
Becky Osborne, Becky at Appleberry, Sandy Hook, CT
Crystal Osborne, Waseda Farm, McLeansville, NC
Savannah Pannell, Flourish Flower Truck, Knoxville, TN
Ellen Paradee, Fleur D'Ellie, Grand Isle, VT
Fran Parrish, Heirloom Soul Florals, Lockport, NY
Lucie Passus, L&L Farm, Vadnais Heights, MN
Dawn Pate, Brantwood Farms, Brantford, ON
Lee Paul, Tanglewood Flower Farm, Mount Airy, MD
Megan Payne, Kismet Farm, Rochester, VT
Emily Pek, Frayed Knot Farm, Cleveland, OH
Erin Perry, Rewild Flower Farm, Langley, BC
Lauren Persino, Pistils & Plumes, Winfield, IL
Dru Peters, Sunnyside Flowers, Dover, PA
Britney Pieper, Tamed Growth Farm, Morrow, OH
Alicia Pierce, Stone Oak Farm, Metamora, MI
Dabney Pierce, River Oaks Farms, Houston, TX
Monica Ponce, Love is Love Cooperative Farm, Brookhaven, GA
Rebecca Porlier, The Colour Farm, Callander, ON
Penny Power, York, ME
Elizabeth Powers, Powers Flowers Farm, Carrollton, GA
Cindy Proctor, Two Horses Farm, Morganton, NC
Belinda Pronkewich, Wild & Pressed Flower Co., Rockwood, ON
Megan Quick, Ozark, MO

Michele Ralston, Walk a Mile Flower & Herb Farm, Bowie, MD
Ginny Randall, Dancing Donkey Flower Farm, Rogersville, MO
Emily Ray, Milkhouse Dahlias, Rockwood, PA
Sarah Reily, Paper Zinnias, Madison, MS
Malvin Respess, GRO Farms, Pantego, NC
Colleen Richardson, Lummi Island, WA
Charlotte Robbins, Kentucky Awesome, LaGrange, KY
Nina Robles, Broad & Bloom, San Gabriel, CA
Marcia Rogers, Cascade Trail Farm, Sedro Woolley, WA
Kathy Romeo, Joy Farm, Bolton, MA
Jennifer Rose, Miller and Co., Flower Farm, Duncan, BC
Krista Rossow, O'Flora Farms, Harrisburg, OR
Abbey Roy, Roy Crest Farms, Vestavia, AL
Doris Royer, New Freedom, PA
Lorraine Ruta, Northampton, MA
Kim Santolla, Kimberly's Greenhouse, Tazewell, VA
Jessica Sawl, Shady Spring Gardens, Elkton, FL
Kathryn Scarabino, Windy Acres Farm and Gardens, Wattsburg, PA
Nadine Schaeffer, Birdsong Orchards, Watsonville, CA
Sabrina Schirtzinger, OSU Extension, Mount Vernon, OH
MaDonna Schmid, Eastside Flower Farm, Los Molinos, CA
Molly Schneider, Skillman, NJ
Tricia Schoen, Long Lane Flower Co., Bellevue, OH
Maria Serafini, Tiffin, OH
Sarah Shearer, Battlefield Blooms, Gettysburg, PA
Allison Sherman, Multnomah Flowers, Wilsonville, OR
Jessica Shoemaker, Farm 47, Albuquerque, NM
Chloe Showell, Flowers By Chloe, Jackson, WY
Wendy Simard, Thistlesong Herbs & Flower Farm, Sebastopol, CA
Sherry Simpson, Cranberry Hill Farm, Ashford, CT
Brianna Sims, Blooms on 7 Flower Farm, Sherwood Park, AB
Carrie Lee Snediker, Alice's Gardens, Gasport, NY
Loni Snyder, Terra Farms, Spring Grove, PA
Suzanne and Paul Snyder, Vintage and Bloom, Addison, VT
Lori Soehnlen, Navarre, OH
Jane Somers, From the Ranch, Nairne, Australia
Marlene Songin, CowSong Gardens, Los Angeles, CA
Kim Spicher, Treasure Life Family Farm, Yorkville, IL
Kieran Spinelli, Airfield Farms, Newburgh, NY
Leya Rae Stefanski, Rae of Sunshine Flowers, Gig Harbor, WA
Brittany Stein, Whispering Myrtle Farm, Walnutport, PA
Pamela Stenger, Rolling Acres Flower Farm, Clarence, MO
Laura Stinson, Dragon Gate Farm, Alexander, NC
Heidi Storey, Purple Shed Flowers, Errington, BC
Brian Strickland, Honeysuckle Market Garden, Smyrna, GA
Hannah Stuckey, The Ohio Flower Girls, Bucyrus, OH
Mary Beth Stuller, Parkton, MD
Laura Stump, Lark & Sky Farms, Troutville, VA
Sandy Sturdy, As You Wish Flowers, Lebanon, OR
Adrianne Stutzman, Branch and Blossom, Columbia, PA
Katie Swartzendruber, Thyme After Thyme, Bridgewater, VA
Sadie Switzer, Wild Child Flowers, Inverness, CA
Beth Syphers, Crowley House Flower Farm, Rickreall, OR
Amy Szabo, Earth.Fire.Flowers, Colton, OH
Lesli Talley, Hidden Creek Farm, Rocky Face, GA
Deborah Tankard, Woodstock Field to Vase, Woodstock, NY
Brad & Staci Tannahill, Little Daisy Florals, Calgary, AB
Jeanne E. Taylor, Daffodil Acres, Dallas, GA
Angie Terry, Louisburg, KS
Lauren Tessier, Itty Bitty Acre, Barre, VT
Mike Tholis, Rendezvous Farm, Frederick, MD
Anne Thompson, Tanglewood Flower Farm, Ashton, MD
Isabella Thorndike, Jacklily Floral, Ashland, OR
Andrea Thorrold, Falmouth, MA
Indra Tobio, Let It Grow Flowers, Pineville, NC
Jenny Tokheim, Sobremesa Farms, Memphis, TN
Paula Tomaszewski, Country Roads Flower Farm, Camrose, AB
Karri Tomich-Baylis, Ruth Mott Foundation, Flint, MI
Tasha Trujillo, Palm Pike, Miami, FL
Tessa Underwood, Bay Garden Blooms, Castro Valley, CA
Tim Vala, Vala's Pumpkin Fall and Apple Orchard, Gretna, NE
Jennifer Valdez, An Occasion Events, La Grange, CA
Hilary Van de Molen, Tamahere Flower Farm, Hamilton, New Zealand
Alicia Vest, Lykans Den Farm, Cynthiana, KY
Holly Vesterby, Wylde Bloems, Coeur d'Alene, ID
Julie Virgalitte, Blacklick, OH
Amy Virus, Philadelphia, PA
Megan Wakefield, Old Dominion Flower Cooperative, Shepherdstown, WV
Collette Walsh, Sol Patch Garden, Braddock, PA
William Walton, Will's Dooryard Nursery, Bangor, ME
Diane Washburn, Aria's Flowers, Puyallup, WA
Joanna Webb, Three Little Buds Flowers, Buckhannon, WV
Rebecca Webb, Vintage Flower Farm, Greenfield, IN
Sienna Wegehaupt, Stems, Mitchell, SD
Debra L. Weidert, Erie, KS
Nancy Wellener, Medina, OH
Jayne Wells, Meadow Gardens Flower Farm, Crystal Springs, MS
Serina Wells, Petal and Rake, Cookeville, TN
Marla Wexler, Boca Raton, FL
Bobbi White, Box Elder, SD
Jamie Wickler, Wild Wick's Farm, Lakewood, CO
Katie Williams, The Gardenly, Dallas, PA
Carlene Willsie, Daisywild Farm, Valatie, NY
Mark Wilson, Ball Seed Co., West Chicago, IL
Kristina Wixted, Kristina Wixted Gardens, Inc., Nantucket, MA
Zena Wolcott-MacCausland, Basin Flowers, Victor, ID
Velvete Womack, Enchanted Iris Herb and Flower Farm, Commerce, TX
Candye Wynn, Wynn's Tomato Ranch, Norfolk, NE
Kelly Yates, Eastern View Farms, Alexandria, VA
Karla Young, Young Family Farm, Little Compton, RI
Linda Zapf, Yavi Farm, Courtenay, BC
Marlee Zuber, Twelve-27 Farm, Cuero, TX

Dave Dowling Scholarships Awarded

Congratulations to these outstanding young people who received the Dave Dowling Scholarship for 2021. We are pleased that they plan to work in the cut flower industry, and welcome them to the ASCFG.

Caleb Spall, Michigan State University

Currently a Master's student at MSU, Caleb already has a broad range of experience in the floral industry. He has worked in several commercial greenhouses, and participated in many research projects at Michigan State. Caleb's goal is to "Help improve greenhouse specialty cut flower production of fresh, exciting, and high-quality specialty cut flowers throughout the year."

Emily Syme, University of Connecticut

Growing up on a cut flower farm may not always mean you'll end up a cut flower grower, but Emily is hoping that will be her future. She's helped out at her family's business with everything from sowing seed to making and selling bouquets, and loves to see happy customers with her products. Emily is studying Plant and Soil Science at UConn, with a minor in Agriculture Business Management and Marketing.

Dave Dowling owned a successful cut flower farm in Maryland for several years. He placed great emphasis on introducing young people to horticulture through employment on his farm, bringing them to ASCFG conferences, and mentoring them as they moved into their own cut flower businesses. Dave is responsible for the success of many new growers across the country. His generosity and enthusiasm for sharing are unparalleled.

Writers Welcome!

We've read your blogs. We see your Facebook posts. We know many ASCFG members are not only outstanding cut flower growers, you are also pretty handy with a pen and paper. Or a monitor and a mouse.

In the past few years, we've been fortunate to receive submissions from growers about a range of topics of interest to our members.

What's on your mind these days? Have you found a new method for seeding, transplanting, cutting, or handling your flowers? What is your absolute favorite—or most profitable—cut flower species or variety?

Send an outline of your proposed article to Judy at mail@ascfg.org and we'll talk!

Dr. Harold F. Wilkins

Dr. Harold F. Wilkins, Professor Emeritus, Department of Horticulture, University of Minnesota passed away on Thursday, January 7, 2021. Dr. Wilkins was a major force in floriculture, creating ideas, generating research, and mentoring students who profoundly influenced industry and academic directions. He had a particularly significant effect on the cut flower world. His love of cut flowers and floral design led him to propose and host a symposium, The Commercial Field Production of Cut and Dried Flowers, in 1988, which would fuel the specialty cut flower industry, and a desire for more education. Allan Armitage and Judy Laushman addressed that need at the same time, with the creation of the Association of Specialty Cut Flower Growers.

Harold's impact on the floriculture industry and research cannot be overstated. His career spanned a time of major change in the floriculture industry. The industry was growing rapidly and in great need of formal, tested information. In close cooperation with the industry, Harold and his colleagues around the world developed the production and forcing protocols that allowed many crops to become reliable, predictable and, most importantly, profitable. Harold had a creative and inquisitive mind that looked at research problems from different perspectives than most. Additionally, he was unafraid to try new ideas, or as was commonly the case, have his graduate students try them. Many experiments did not work out as intended. But more often than not, they did, yielding intellectual leaps forward.

His research over the years included many floral crops with a particular focus on cool weather crops that would require less energy for production, reducing the cost of operating greenhouses in the cold Minnesota climate. These crops included Easter lilies, freesias, azaleas, and alstroemerias. Dr. Wilkins' research helped create the multi-million-dollar alstroemeria industry in the U.S., and he is considered the Father of the Alstroemeria Industry worldwide. The freesia research created the year-round flowering programs using soil temperature management. Other major areas of research included branching control for roses, carnations, and poinsettias, and so much more.

Harold was ever humble and attributed much of his success over the years to his graduate students: Bert Swanson, W.C. Lin, Mark Roh, Marsha Celeste, Royal Heins, Terry Gilbertson-Ferriss, Will Healy, Brent Pemberton, Kevin Grueber, Nancy Olson, Peter Bierman, Charleen Baker, Carole Zakkour, John Dole, and Michael Evans (in order of graduation), always putting their names before his own on research publications. Harold was proud that his students went on to lead floriculture education and research at major universities and businesses in the U.S. and Canada. Hundreds of his undergraduate students continue to amaze their employers and families with their floral knowledge. Beloved by his students, he considers many to be his sons and daughters, and regards their children, both personal and academic, as his grandchildren.

Harold had a major impact on floriculture through his writing and advocacy. He co-authored two editions of *Floriculture Species and Production*, now the standard text at universities worldwide and a major industry reference. He wrote hundreds of scientific articles, trade journal articles, and book chapters, as well as gave an untold number of presentations, both domestically and internationally. An avid traveler, he developed an international perspective, taking ideas abroad and bringing different innovative ideas back to Minnesota. He loved meeting international floriculture researchers, visiting their labs, exploring their industries, and fostering a global perspective.

John Zehrer, owner of Star Valley Flowers in Soldiers Grove, Wisconsin says that he would not be in business today without meeting Harold in 1987. After John literally knocked on his door one day and told him he wanted to grow cut flowers

in the field, Harold took him under his wing. Today Star Valley grows more than 160 acres of woodies and herbaceous cut flowers. Harold called John "My favorite student who never spent a day in my classroom."

In November 2005, Harold and his partner Bryan Gjevre began a new "retirement" venture. They purchased a 9-acre farm near Baldwin, Wisconsin and were so sure of the sale they planted 24 tulips on the land before closing the deal. Since 2006 they have planted unusual woody and herbaceous ornamentals to sell to unique floral shops in the Twin Cities and western Wisconsin. In addition, Harold and Bryan provided exceptional cut flowers, bouquets, and designs for clients who peruse the Mill City Farmers Market on Saturdays in downtown Minneapolis. The "Wilkins' Bow" was hand-crafted by Harold for many bouquets while his customers watched the complicated procedure.

Harold Wilkins had a major impact on the floriculture industry and academics. With his larger-than-life personality and tireless energy, he leaves behind Bryan Gjevre and many students and colleagues. His memory will be kept alive through their stories of his generosity, devotion, and service, and occasionally, stories of mischief, mayhem, and mishaps!

The American Floral Endowment has established a memorial tribute for Harold Wilkins: https://endowment.org/memorial-tribute-established-in-memory-of-harold-wilkins/ If giving online, select "Memorial Tribute" under "Apply My Donation" and Select "Memorial" under "Honor or remember someone with your gift". Then select skip answering 'Your donation will go to the General AFE Fund unless you specific below:" as the memorial information previously entered will ensure the gift is properly attributed to the Memorial Fund.

Thanks for the Good Word

You connected some of our new members to the ASCFG!

Gretel and Steve Adam
Krista Albright
Chet Anderson
Lois Anderson
Maria Baldwin
Erin Benzakein
Briana Bosch
Kimberly Burton
Sabine Carey
Alicain Carlson
Christina Cover
Amy Crawford
Xenia D'Ambrosi
Mimo Davis
Linda Doan
Dave Dowling
Sophie Trouillet Ducharme
Kris Elledge
Michelle Elston
Laura Fisher
Flower Hill Farm
Ellen Frost
Chas Gill
Jolea Gress
Drew Groezinger
Bailey Hale
Gwynn Hamilton
Melanie Harrington
Janis Harris
Nancy Hanmer
Joyce and John Holzapfel
Nicolette Irving
Cathy Johnson
Julia Keel
Sarah Kistner
Joy Kroner
Barbara Lamborne
George Little
Lisa Loehr
Susanna Lohmar
Jennie Love
Jennifer Maloney
David Martin
Martha Mason
Nan Matteson
Carrie McCann
Megan McHugh
Erin McMullen
Sue Miller
Ann Munson
Debra Prinzing
Laura Beth Resnick
Mindi Rich
Denise Richter
Jamie Rohda
Mary Ann Rozum
Scott Rusch
Rebecca Sadlowski
Val Schirmer
Catherine Schmidt
Janis Smith
Jennifer Smith
Carolyn Snell
Trisha Snyder
Cara Stefchak
Adrianne Stutzman
Louise Sullivan
Lynsey Taulbee
Mary Turner
Beth Varas
Karen Whitener
Tom Wikstrom
Delight Wilcox
Mike and Rita Williams
Lisa Ziegler
Mark Ziesel
Gail Zorn

Our "Ask an Expert" Series Continues!

We're continuing our popular "Ask an Expert" series! Join us for these informal Zoom sessions with ASCFG members, who will share their insights on a variety of topics. These events are about one hour long, including time for questions for participants. We thank these growers for their generosity and creativity!

How about you? Do you have a farming innovation, a new harvest process, or a design discovery to share with your fellow members? Do you grow cut flowers in another country? Contact us at mail@ascfg.org and let's talk!

Cut Flowers in Australia
Presented by Andrew Kay and Brenda Lavender of Good Hope Blooms
NSW, Australia
Monday, April 5
8:00 p.m. EST

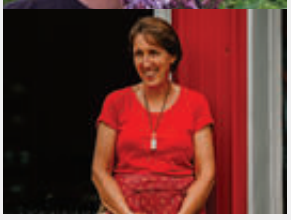
Natural Dried Flowers
Presented by Heather Henson of Boral Blooms
Cold Lake, Alberta
Monday, April 19
8:00 p.m. EST

Optimizing Farm Efficiency
Presented by Polly and Mike Hutchison of Robin Hollow Farm
Saunderstown, Rhode Island
Monday, May 17
8:00 p.m. EST

Summer Rose Care
Presented by Felicia Alvarez of Menagerie Farm & Flower
Live Oak, California
Monday, June 14
8:00 p.m. EST

Virtual Tour of Ball's California Cut Flower Trials
Presented by Scott Rusch of BloomStudios
West Chicago, Illinois
Monday, June 21
8:00 p.m. EST

Woody Cut Stems
Presented by Karl Vahrmeyer of Green Park Nurseries
Ridgeville, Ontario
Monday, July 12
8:00 p.m. EST



Growing Tuberose as and Annual
Presented by Jamie Rohda of Harvest Home
Waverly, Nebraska
Monday, September 13
8:00 p.m. EST

Dig in to your membership benefits!

Exclusively Yours!

Log in to the exclusive **Members Only** section of ascfg.org. You'll find current and archived issues of *The Cut Flower Quarterly*, ASCFG Trial Reports, a collection of educational videos, recordings of webinars, documents on topics essential to your business, and much more!

Network and Share

ASCFG Facebook Closed Group Check out what members are sharing! Find it by searching "ASCFG Members Only" and request to join. It's like having a consulting firm at your fingertips.

Make Your Mark on the Map

Localflowers.org Members who are growing commercially have the option to be listed here. This is your chance to make your ad-free member page an effective marketing tool to promote you and your business. Be sure to embellish your page with photos and more to make it your own!

The Only Publication of its Kind

The Cut Flower Quarterly is uploaded to Members Only as soon as it is finished and then will arrive in your mailbox 2-3 weeks later. Please keep the office informed of any changes to your address or problems receiving this important benefit.

Stay Informed

Our emailed newsletter, ***Short Cuts***, designed to keep you informed about your association and industry news, will arrive monthly. Be sure to check your spam and mark "not spam" if you find it there.

Learn and Grow

Attend **ASCFG Events** to discover the many opportunities to learn new growing tips and techniques along with other growers with the same passion – cut flowers! We can't meet in person at this time, but stay tuned for more online opportunities.

Make Connections

Reach out to other members in your Region. Use the map at localflowers.org or the directory in Members Only to find fellow members near you. Growers are very busy, especially at the peak of their seasons, and their availability will vary from member to member. Suggest that you spend time at one another's farm to learn and share, or perhaps offer to work with a more experienced member for a day in exchange for the opportunity see their operation firsthand. Form a small group in your Region willing to check in on occasion for a casual meeting by phone, online, or in person.

Research is Creating New Knowledge

Judy M. Laushman

This issue of *The Cut Flower Quarterly* offers a valuable overview of the status of cut flower research. Read on pages 50-51 the many accomplishments of Dr. Harold Wilkins, one of this country's foremost floriculture scientists. His passion for introducing new species into the industry and figuring out how to produce them commercially; his lifetime of mentoring undergraduate and graduate students; and his generous and gentle soul combined to make him an important and beloved figure in the floral industry.

Dr. John Dole, who co-authored Floriculture: Principles and Species with Harold Wilkins, is also somewhat Harold's heir apparent. John's body of cut flower research is remarkable for its depth and breadth. Harold helped to fuel his interest in cut flowers which led to John's lifelong career in cut flowers.

Though by training a soil scientist, Dr. Melanie Stock of Utah State University is now working with cut flower growers in the intermountain west on best practices for ranunculus and peony production, and has started a new project on early-flowering anemone.

Both these researchers have received funding from the ASCFG Research Foundation, which is completely supported by contributions from cut flower growers like you—like the ones listed in this issue. Please do your best to keep these kinds of investigations possible, and donate to the Research Foundation this month. If every member who joined in the last three months (see pages 44-48) sent just $25 to the Foundation, the level of funds awarded to applicants can be raised for the 2021 cycle.

At the same time, cut flower growers like Rachel Cross of Spirit of Walloon Market Garden in Michigan are conducting research on a different scale and in a different environment—on their own farms and in their greenhouses. Grassroots experimentation like this, regardless of the outcome, is what keeps the cut flower industry healthy and moving forward. Growers are most aware of the issues affecting the health and productivity of their cut flower crops, and are sometimes the ideal investigators. Partnerships with land grant universities and cooperative extension agencies can provide additional resources, experience, and sometimes materials and equipment.

When you're ready to investigate an issue on your farm, whether in the field or the greenhouse, or if it has to do with economies of cut flower production or marketing, consider applying for an ASCFG Grower Grant. Science being science, you may not achieve the goal you were hoping for, but you will certainly learn more about research than you knew before, making you a better flower farmer.

NCSU Trial Beds, 2017

DutchGrown Pro™ is a private, members-only webshop for flower farmers all across the United States. At DutchGrown Pro™ we offer the highest quality and most popular fall planted flower bulbs in the industry which are excellent to use for specialty cut flower growers.

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Flowering Kale F1
Crane Feather King

Flowering Kale F1
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